

# Final Revision

Complete the following sentences with one of words between brackets:

(1) ( six - chemical - battery - output - Sun - input - kinetic )

- 1- ..... is the main source of energy on earth's surface.
  - 2- Spacecraft needs more than .....months to reach Mars.
  - 3- When you eat an orange your body converts the .....energy stored inside the orange into .....energy when you move.
  - 4- Electrical energy is ..... energy in cellular phone to charge its .....
  - 5- The .....energy in the small watch is kinetic energy.
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(2)(electrical - stops - kinetic - chemical- heat - potential )

- 1- Batteries change ..... energy into electric energy.
  - 2- To operate an electric mixer we use ..... energy.
  - 3- When you press on the soap dispenser, you convert the ..... energy stored in its spring into ..... energy that moves the soap upward.
  - 4- In any energy chain, some of the energy is lost in the form of .....
  - 5- When the fuel inside the car runs out, the car .....
- 

(3)(long – turbines – burning – Acid rains – fossil – water )

- 1- We have to heat the .....to produce steam which is used to turn ..... in the electric power station.
- 2- Air pollution is usually caused due to ..... of fossil fuel.
- 3- Global warming is one of the disadvantages of burning ..... fuel.
- 4- The fossil fuel is formed underground from dead plants or animals after a very ..... period of time.
- 5- ..... formed when carbon dioxide combines with water in air.

**(4) (renewable - kinetic – watermill – generator - windmill )**

- 1- The water flow has ..... energy, which moves the blades of ..... to generate electrical energy.
  - 2- The electricity that is generated by wind turbines is considered as ..... energy resource.
  - 3- When wind Kinetic energy increases, the blades of ..... spin more quickly.
  - 4- A wind turbine is connected to a ..... that converts kinetic energy to electrical energy.
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**(5) (Electrical – warms – solar cells – thermal – wires – batteries)**

- 1- Solar panels made of many small ..... that can generate electricity.
  - 2- ..... energy and ..... energy are the two types of energy produced from solar panels.
  - 3- Solar cells that are found in some calculators produce electrical energy that is used to recharge their .....
  - 4- The sun ..... the earth and the wind, causing air movement and wind blowing.
  - 5- Electricity is transferred to cities through huge .....
- 

**(6)(gravitational – kinetic – water – Hydroelectric – wind )**

- 1- When the wind turbines rotate, ..... energy is converted into electrical energy.
- 2- Kinetic energy created by ..... movement is used to rotate the blades of wind turbines.
- 3- Kinetic energy created by ..... movement is used to rotate the blades of water turbines.
- 4- The reason of flowing of river water downhill is the ..... force.

(7)(kinetic – potential – Dams – decrease – Hydroelectric – increase )

- 1- The amount of coal will ..... as the time passes.
  - 2- ..... energy is a type of electrical energy generated by water turbines in dams.
  - 3- Water of rivers stores great ..... energy, when dam prevent the flow of water.
  - 4- When water of river is released, kinetic energy of falling water .....
  - 5- ..... control the flow of water in rivers to generate electricity.
  - 6- Running water in rivers has ..... energy.
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(8) (mechanical – increases – dissolved minerals – chemical – water)

- 1) The shape of coastal rocks is affected by the forces of ..... and wind.
  - 2) When water freezes, it expands. This means that its volume .....
  - 3) Limestone caves are formed due to the combination of .....
  - 4) Plant roots help in the ..... weathering of rocks.
  - 5) Limestone caves are formed by the action of ..... weathering.
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(9) (wind – erosion – water – gravity – shorter)

- 1) Gentle wind may carry sand for ..... distance.
- 2) Movement of sediments from a place to another represent ..... process.
- 3) Pulling down broken weathered rocks at mountainsides occurs by the effect of .....
- 4) Wind, ..... and gravity are natural factors that control erosion process.
- 5) Blowing of strong ..... in the desert may form large sand dunes.

(10) (gravity – increases – water – canyon – gently – erosion – river)

- 1) If the rain falls over a small canyon for several times per year, its depth .....  
.....
- 2) Wadi Nakhr in Oman is an example of ..... landform.
- 3) Canyon is formed by the effect of the stream of .....
- 4) The process of carving the rock into different shapes by wind blowing is ..... process.
- 5) Both of canyons and valleys have a ..... flow through their lowest points.
- 6) The sides of the canyon at the beginning of its formation are ..... sloped.
- 7) The rainwater gathers in small streams due to the pulling force of .....

**Choose the correct answer:**

- 1- Energy is very important for most devices to .....  
a) operate      b) do their functions      c) move      d) all the previous
- 2- The energy source in toy car is .....  
a) engine      b) tires      c) battery      d) fuel
- 3- When batteries run out, devices .....  
a) operate      b) move      c) stop      d) do their functions
- 4- When batteries run out, we must .....  
a) charge it      b) change it      c) burn it      d) a and b
- 5- Spacecraft takes several ..... to travel from earth to mars.  
a) minutes      b) days      c) months      d) years
- 6- Curiosity rover is designed to explore .....  
a) Earth planet      b) moon      c) mars planet      c) the sun
- 7- Curiosity is the most famous ..... on mars.  
a) Planet      b) robot      c) rocket      d) spacecraft
- 8- Robots and vehicles are operated by.....  
a) electric chargers      b) long-term batteries  
c) solar panels      d) b and c



9- The electrical energy changes in hair dryer into ..... and ..... energies.

- a) sound – thermal
- b) kinetic – light
- c) thermal – light
- d) light – sound

10- Heat energy is the ..... energy in hair dryer.

- a) input
- b) output
- c) wasted
- d) lost

11- Electrical energy changes inside light bulb into ..... and..... Energies.

- a) sound – thermal
- b) kinetic – light
- c) thermal – light
- d) light – sound

12- When a piece of coal is burnt, ..... energy is produced.

- a) sound
- b) kinetic
- c) thermal
- d) potential

13- The ..... Changes electrical energy into light and sound energies.

- a) TV
- b) cellular phone
- c) radio
- d) a and b

14- Light energy is produced from all the following devices except.....

- a) TV
- b) cellular phone
- c) radio
- d) electric lamp

15- Sound energy is produced from all the following devices except.....

- a) TV
- b) cellular phone
- c) radio
- d) electric iron

16- In hair dryer and electric water kettle, the electrical energy changes into ..... energy.

- a) electrical
- b) kinetic
- c) thermal
- d) potential

17- Due to friction of bikes's tire and road some kinetic energy is converted into ..... energy.

- a) sound
- b) light
- c) thermal
- d) potential

18- Which kind of energy is NOT produced by the sun?

- a) heat energy
- b) light energy
- c) mechanical energy
- d) solar energy

19- Which form of energy is not used or produced when electric lamp is turned?

- a) Electrical
- b) light
- c) sound
- d) thermal

20- When you use the hand bell the ..... energy changes into sound energy.

- a) electrical
- b) light
- c) kinetic
- d) thermal

21- Which sentences shows the energy changes in the flash light in correct order?

- a) Chemical – electrical – light
- b) electrical – chemical – light
- c) light – electrical – chemical
- d) electrical – light – chemical

22- During charging a mobile phone, the ..... energy is converted into ..... energy that is stored in the phone battery.

- a) electrical — chemical
- b) chemical — thermal
- c) electrical — thermal
- d) thermal — chemical



23- During the running of a player the chemical energy inside his body is converted into ..... and ..... energies.

- a) potential – light
- b) kinetic – light
- c) kinetic – thermal
- d) thermal – light

24- The output energy when playing a drums is the ..... energy.

- a) electrical
- b) light
- c) potential
- d) sound

25- You feel warm when you rub your hands because ..... energy transformed into thermal energy.

- a) electrical
- b) light
- c) kinetic
- d) sound

26- The produced ..... energy does not help the blender do its job.

- a) Chemical
- b) sound
- c) light
- d) potential

27- In the washing machine, the ..... energy changes into kinetic and sound energies.

- a) light
- b) electrical
- c) thermal
- d) potential

28- ..... is used in electric power stations to produce electricity.

- a) Water
- b) Coal
- c) Food
- d) Green plants

29- "Energy is saved", this is known as the.....

- a) Law of Conservation of Energy
- b) Law of Attraction Force
- c) First Law of Newton
- d) Second Law of Newton

30- If the ..... energy doesn't go through the television's wire, it will not turn on.

- a) electrical
- b) light
- c) kinetic
- d) sound

31- Vehicles on Mars change solar energy into ..... energies to operate their sensors and to move on Mars.

- a) electrical
- b) heat
- c) kinetic
- d) all the previous

32- All these devices consume electric energy, except.....

- a) TV
- b) cellular phone
- c) radio
- d) solar cells

33- ..... consume electric energy.

- a) Solar cells
- b) Batteries
- c) Solar heaters
- d) Cellular phones

34- Electric energy is ..... in the electric heater.

- a) Consumed
- b) produced
- c) wasted
- d) destroyed

35- Electric wires are made of .....

- a) copper
- b) wood
- c) glass
- d) paper

36- When you use the hand bell, the ..... energy changes into sound energy.

- a) light
- b) thermal
- c) kinetic
- d) electric

37- The two main types of fuel are .....

- a) wood and coal
- b) wind and water
- c) the sun and the moon
- d) biofuel and fossil fuel.

38- ..... is an example of biofuel.

- a) Petroleum
- b) Natural gas
- c) Coal
- d) corn plant

39- Car engine can be operated by .....

- a) coal only
- b) coal and wood
- c) gasoline only
- d) gasoline and natural gas

40- All the following are renewable source of energy except.....

- a) Wind
- b) Sun
- c) Biofuel
- d) petroleum

41- ..... is (are) from the importance of fuel.

- a) Operating cars
- b) Generating electricity
- c) Warming houses
- d) All the previous

42- All the following are found deeply under the earth's surface except.....

- a) Oil
- b) green plants
- c) natural gas
- d) coal

43- All the following are used to generate electrical energy, except.....

- a) rain water
- b) waterfalls
- c) natural gas
- d) oil

- 44- All the following factors play an important role in the formation of fossil fuel, except.....
- a) extreme pressure.
  - b) extreme heat.
  - c) The moon light.
  - d) rocks and sediment
- 45- The fuel must be ..... at first to move a car.
- a) freezed
  - b) burned inside the car engine.
  - c) cooled
  - d) removed from the fuel tank.
- 46- Ancient people use ..... as a fuel before discovering gasoline.
- a) water
  - b) electricity
  - c) wood
  - d) wind
- 47- All the following are forms of fuel, except.....
- a) wood
  - b) natural gas
  - c) gasoline
  - d) glass
- 48- From the disadvantages of biofuel is (are) .....
- a) cutting trees
  - b) removal of forests
  - c) air pollution
  - d) a and b
- 49- Coal is formed under the earth's surface from the remains of .....
- a) Dead animals
  - b) dead plants
  - c) dead humans
  - d) dead insects
- 50- The non-renewable resources of energy take ..... to be formed.
- a) Short period of time
  - b) few hours
  - c) few minutes
  - d) a very long period of time
- 51- Both coal and charcoal .....
- a) are renewable resources of energy.
  - b) are non-renewable resources of energy.
  - c) are examples of biofuel.
  - d) produce thermal energy on burning.
- 52- Ethanol is a liquid fuel produced from.....
- a) grass
  - b) corn
  - c) wood chips
  - d) all the previous
- 53- Some forms of fuel can be used in cooking such as .....
- a) Wood
  - b) coal
  - c) natural gas
  - d) all the previous



- 54- We can use the energy obtained from burning of wood in all of the following situations, except.....
- a) warming houses.
  - b) operating television.
  - c) cooking food.
  - d) boiling water.

- 55- Hydroelectric energy is generated from .....
- a) waterfalls only.
  - b) waterfalls and dams.
  - c) biofuel only.
  - d) biofuel and fossil fuel

- 56- ..... can be used in electric power stations to generate electricity.
- a) Coal
  - b) oil
  - c) natural gas
  - d) all the previous

- 57- The rate of consumption of fossil fuel is ..... the rate of its formation.
- a) more than
  - b) less than
  - c) equal to
  - d) no correct answer

- 58- Which of the following forms of fuels can be manufactured by man?
- a) Oil and natural gas.
  - b) Oil and charcoal.
  - c) Natural gas and ethanol.
  - d) Charcoal and ethanol

- 59-We can use the energy that is produced from..... To produce electricity.
- a) renewable resources only
  - b) non-renewable resources only
  - c) a and b
  - d) no correct answer

- 60-The amount of ..... is limited on Earth.
- a) biofuel
  - b) fossil fuel
  - c) non-renewable energy resources
  - d) b and c

- 61- ..... moves the turbines in electric power stations.
- a) Air
  - b) Steam
  - c) Water
  - d) No correct answer

- 62-Cars smog cause irritation of ..... of humans.
- a) stomach and eyes
  - b) eyes and lungs
  - c) small intestine
  - d) brain

- 63-Burning of fossil fuel produces .....
- a) thermal energy.
  - b) gases that pollute the air and solar energy.
  - c) gases that pollute the air.
  - d) a and c.



**64- Among the following resources, we must conserve .....**

- a) solar energy and coal.
  - b) solar energy and wind energy.
  - c) wind energy and oil.
  - d) oil and coal.

**65-People use machines to .....**

- a) make their life easier
  - b) save their effort
  - c) get tasks done faster
  - d) all the previous

**66-Both modern wind turbines and water turbines are similar in their .....**

- a) shape.
  - b) ability to generate electrical energy.
  - c) blades number
  - d) length

**67-The wind movement has ..... energy which moves the windmill's blades.**

- a) Kinetic      b) solar      c) thermal      d) potential

**68- ..... depends on a renewable source of energy.**

- a) Petroleum oven      b) Gas oven      c) Solar cell      d) Flashlight

69-In the absence of sunlight, all the following items will be affected, except..

- a) plants      b) human      c) rocks      d) animals.

70-..... can turn a turbine to generate electricity.

- a) Wind blowing
  - b) water flowing
  - c) burning coal
  - d) all the previous

**71-Which of the following pairs of materials are good natural resources for providing energy?**

- a) gravel and oil
  - b) trees and carbon dioxide
  - c) the ocean and soil
  - d) wind and natural gas

**72-Using of water to generate electricity depends on places .....**

- a) with strong winds.
  - b) where dams are built on rivers.
  - c) with weak winds.
  - d) where boats sail in rivers.

**73-Using of wind to generate electricity depends on places .....**

- a) with strong winds.
  - b) where dams are built on rivers.
  - c) with weak winds.
  - d) where boats sail in rivers.

**74- Sand is formed due to breaking down of .....**

- a) glass      b) plastic      c) wood      d) rocks.



- 86- The delta is formed when the river stream entering all of the following, except.....  
a) a lake              b) a sea              c) a mountain      d) an ocean
- 87- Among the examples of fast changes of landforms is the disappearance of  
a)canyons              b) valleys              c) mountains      d) sandcastle
- 88- Each of the following plays a role in erosion process, except .....  
a) blowing wind    b) water floods    c) sunlight      d) Earth's gravity.
- 89- A canyon can be formed by the effect of .....  
a) water only              b) wind only  
c) water and wind              d) water and sunlight
- 90- A canyon may take ..... of years to be formed.  
a) hundreds              b) tens              c) millions      d) couple
- 91- Among canyons which has V-shape are .....  
a) Wadi Nakhr and the Small Canyon.  
b) the Colored Canyon and Wadi Rum.  
c) the Small Canyon and the Colored Canyon.  
d) Wadi Nakhr and Wadi Rum.
- 92- If the big rocks of a mountain were broken off, this is an evidence of .....  
a) weathering process only              b) weathering and erosion processes  
c) erosion process only              d)weathering and deposition processes
- 93- Nile River Delta in Egypt is formed due to ..... process.  
a) chemical weathering              b) erosion  
c) mechanical weathering              d) deposition
- 94- ..... can erode valleys and form canyons across them.  
a)Rivers              b) Mountains              c) Dunes              d) Rocks
- 95- The shape of the valley depends upon all of the following factors, except  
a) type of rocks              b) speed of the river  
c) size of rocks              d) size of the river
- 96- Rivers that flow fast can cause more ..... than rivers with slow flow.  
a)erosion              b) weathering              c) deposition      d) formation

97- ..... has brown and black colors.

- a) Wadi Nakhr
- b) Wadi Rum
- c) Small Canyon
- d) Colored Canyon

98- Walls of canyons are characterized by all the following, except that they....

- a) are very high
- b) are gently sloped
- c) have great depth
- d) consist of many rock layers

99- Sand dunes are common landforms between .....

- a) rainforest and sandy desert
- b) beach and rainforest
- c) sandy desert and oceans
- d) beach and sandy desert

100- When a rock blocks the path of flying sand, a ..... may be formed

- a) dune
- b) river
- c) valley
- d) canyon

101- Among the examples of sedimentary rocks which present in Wadi Al-Hitan is/are .....

- a) sandstone only
- b) limestone only
- c) both sandstone and limestone
- d) no correct answers

102- The large skeletons of whales that are present in Wadi Al-Hitan considered as an example of.....

- a) fossils
- b) rocks
- c) sediments
- d) formations

103- All the following skeletons can be found in Wadi Al-Hitan, except the skeleton of.....

- a) whales
- b) human
- c) turtles
- d) crocodiles.

104- The formation of sand dunes in Eastern Desert in Egypt is due to the movement of.....

- a) floods
- b) winds
- c) waves
- d) rains.

Complete the following sentences:

1- In the battery of a toy car ..... energy changes into electrical energy.

2- The wasted energy in the hair dryer is ..... energy.

3- Any energy chain starts with the .....

4- Green plants can convert light energy from the sun into ..... energy stored inside plants body.

- 5-Electric lamps consume ..... energy.
- 6- We burn trees to get ..... energy.
- 7- Solar cells change solar energy into ..... energy.
- 8- The number of blades in a modern mill is ..... than the number of blades in an old windmill.
- 9-Both coal and wood produce ..... energy on burning them.
- 10- Water flows through turbines in dams to generate ..... energy.
- 11-Both wind movement and water flow has ..... energy.
- 12- Shaping the Earth is usually starts by ..... process.
- 13- The type of weathering in which the structure of rocks changes due to chemical reactions is known as ..... weathering
- 14- Lichens produce ..... on rocks that dissolve ..... found in these rocks.
- 15- Oxygen in air reacts with iron of some rocks forming ..... colored rust.
- 16- Gentle winds can form small ..... like that present at sea beaches.
- 17- ..... and ..... are the two processes that have the main role in formation of canyons.
- 18- Sand dunes are formed due to erosion and ..... processes at the same time.
- 19- ..... are common landforms between desert and beach.
- 20- Canyon is a special type of ..... which its sides are steep.
- 21- When the speed of the water stream that is run over a mountain increases, the rate of erosion will .....
- 22- When the sides of a valley become steep, this valley may be changed into a .....
- 23- 40 millions of years ago, Wadi Al-Hitan was covered by a .....
- 24- The separated layers of sedimentary rocks are called .....
- 25- Wind erosion can carve the ..... into different forms.
- 26- Sand dunes may reach ..... of meters tall.
- 27- Wind ..... and ..... affect the distance and the way of sand that travel through air.

## Put (✓) or (X) then correct the wrong:

- 1-Electricity is a form of energy found in the food we eat. ( )
- 2-Energy can't be changed from one form to another. ( )
- 3-Energy is neither created nor destroyed. ( )
- 4-We can continue to move a toy car even after its battery runs out. ( )
- 5-Toy cars depend on fuel as a source of electrical energy. ( )
- 6-Solar energy is the energy consumed in solar cells. ( )
- 7-Batteries produce chemical energy. ( )
- 8-Cellular phones change electrical energy into sound and light energies. ( )
- 9-Energy may be destroyed inside different devices. ( )
- 10-Dynamo (generator) is used to produce electrical energy. ( )
- 11-Small watches consume kinetic energy. ( )
- 12-We can convert the solar energy into different forms of energy. ( )
- 13-Light energy from the Sun causes trees to grow. ( )
- 14-Electric bulb depends on chemical energy to be operated. ( )
- 15-You feel hot when you approach your hand to an electric bulb. ( )
- 16-Both electric bulb and electric heater produce thermal energy. ( )
- 17-While playing a guitar, the electrical energy changes into sound energy. ( )
- 18-You need gasoline to move a bicycle. ( )
- 19-We cannot drive a car that doesn't contain fuel. ( )
- 20-Biofuel is one of non-renewable resources of energy. ( )
- 21-Extreme cooling under the Earth's surface, helps in the formation of oil. ( )
- 22-Charcoal is made up of grass, corn or wood chips. ( )
- 23-Coal is the source of heat energy in fireplaces. ( )
- 24-Water and oil are two renewable resources of energy. ( )
- 25-Petroleum oil is considered as a non-renewable source of energy. ( )
- 26-Flashlight depends on a non-renewable source of energy. ( )
- 27-We can make a liquid fuel from grass and wood chips. ( )
- 28-All forms of fossil fuel are formed under the earth's surface. ( )

- 29-Water is renewable as it is recycled in nature. ( )
- 30-Plugging many unused electrical appliances conserve electrical energy. ( )
- 31-Turning off lights that we do not need, is a way to conserve electricity. ( )
- 32-To reduce pollution and preserve non-renewable resources of energy, we must decrease their using. ( )
- 33-The amount of oil on the Earth is limited. ( )
- 34-Acid rains cause soil and water pollution. ( )
- 35-As a result of global warming, the temperature on the Earth increases. ( )
- 36-Waterfalls are from the renewable sources of energy. ( )
- 37-Windmill turbines generate electricity by using the energy of water. ( )
- 38-Windmills can do their job all the time as the wind never stops blowing. ( )
- 39-Both Windmills and watermills are used to grind grains to make flour. ( )
- 40-Placing large windows on the walls that face the Sun helps in warming houses. ( )
- 41-The difference in temperature between cold and hot air causes air to stop. ( )
- 42-When the water of rivers falls from a high slope, potential energy is converted into kinetic energy. ( )
- 43-Electrical energy can be generated from both waterfalls and wind movement. ( )
- 44- A modern wind turbine is taller than an old windmill. ( )
- 45-Dams are built on rivers to control the wind flow. ( )
- 46-Water turbines are used to generate electricity in places which have waterfalls or dam. ( )
- 47-Weathering process happens over short period of time. ( )
- 48-Water and wind are artificial forces that are responsible for the erosion of sea coasts. ( )
- 49-The surface of the Earth changes from time to time. ( )
- 50-Wind cannot break down rocks. ( )
- 51-Breaking of statues is an example of weathering. ( )

- 52-Rusting of statues is an example of mechanical weathering. ( )
- 53-Wind can be considered one of the factors that cause weathering. ( )
- 54-When iron in rocks rusts, the rock becomes stronger. ( )
- 55-All physical factors of mechanical weathering lead to breaking down of rocks. ( )
- 56-The effect of erosion may last for hundreds of years. ( )
- 57-Deposition process never changes the shape of the land. ( )
- 58-Sea waves may cause erosion of benches. ( )
- 59-Blowing of wind and flooding of water play an important role in erosion process. ( )
- 60-Sedimentary rocks are formed in a short period of time. ( )
- 61-When the water is moving over the sand, It leaves an impression on it. ( )
- 62-Canyon may take one year only to be formed. ( )
- 63-Canyon may be formed due to the effect of wind weathering and erosion. ( )
- 64- Wadi Rum in Jordan is an example of dune. ( )
- 65-Rivers cause less erosion of rocks than small streams. ( )
- 66-Both canyons and valleys often have river in their bottom. ( )
- 67-The walls of valleys are vertical and steep. ( )
- 68-Wadi Al-Hitan has always looked as it does now. ( )
- 69-At Wadi Al-Hitan, the oldest rocks are found at the top of the layers. ( )
- 70-Wind can pick up sand grains in forming sand dunes. ( )
- 71-Sand dunes are formed by erosion only. ( )
- 72-Sand dunes usually seen separately, and may cover a small area. ( )

## Choose from column (B) what suits it in column (A) :

1)

Column (A)	Column (B)
1-Energy neither created nor lost but is converted from one form to another.	a) sun
2- Energy consumed to operate devices.	b) law of conservation
3- The main source of energy on earth.	c) wasted energy
4- Energy produced from device but not used	d) input energy

1	2	3	4
.....	.....	.....	.....

2)

Column (A)	Column (B)
1-It stores chemical energy.	a)generator
2-Changes electrical energy into heat energy.	b)Electric mixer
3-turns kinetic energy into electrical energy.	c) Electric iron
4- Convert electrical energy into kinetic energy.	d)battery

1	2	3	4
.....	.....	.....	.....

4)

Column (A)	Column (B)
1- energy produced in the solar heater.	a) Kinetic energy.
2- Input energy in hair dryer.	b) Sound energy.
3- energy produced from the electric fan.	c) electrical energy.
4- output energy when playing a piano	d) Heat energy.

1	2	3	4
.....	.....	.....	.....

5)

(A)	(B)
1-Petroleum oil	a) The oldest renewable fuel that is used all over the world.
2- Biofuel	b) The main source of energy and fuel
3-Charcoal	c) Is a type of fossil fuel and is the energy source in gas oven
4-Wood	d) Is a type of fossil fuel that is produced from dead old marine organisms.
5- Sun	e) Fuel made from living things that can be planted.
6-Fossil fuel	f) Is a type of biofuel made up from wood.
7-Natural gas	g) Fuel made from remains of living things that decomposed millions of years ago.

1	2	3	4	5	6	7
.....	.....	.....	.....	.....	.....	.....

6)

Column (A)	Column (B)
1-Smog	a) Is resulted from burning of fossil fuels.
2-Air pollution	b) The natural resources that can be replaced shortly after being used.
3-Global warming	c) Device in the electric power station that operated by steam.
4-Renewable energy resources	d) A phenomenon in which the Earth's temperature increases.
5- Pesticides	e) Cause water and soil pollution.
6- Turbine	f) Cause damage to tissues of respiratory system.

1	2	3	4	5	6
.....	.....	.....	.....	.....	.....

7)

Column (A)	Column (B)
1-Were used to grind grains.	a) Dams
2-A fuel used in fireplace.	b) Greenhouses
3-Control the flow of water in rivers.	c) convergent mirrors
4-The natural resources that are consumed at a rate faster than they can be renewed.	d) Non-renewable resources of energy
5- Help farmers in planting crops that need hot weather.	e) Coal
6-A type of mirrors that is used to collect and focus sunlight onto metal pots for cooking.	f) windmills

1	2	3	4	5	6
.....	.....	.....	.....	.....	.....

8)

Column (A)	Column (B)
1- Device that turns when the wind blows.	a) Solar water heater
2-Device consists of panels made of black pipes used to heat water.	b) radiant energy
3-Designed to absorb the Sun to generate electricity.	c) Water turbine
4-A type of energy found in sun rays.	d) Solar panels
5-A turbine that converts the energy of falling water into electrical energy.	e) Wind turbine

1	2	3	4	5
.....	.....	.....	.....	.....

9)

Column (A)	Column (B)
1) Deep valleys that are carved by flowing of water.	a) Deposition
2) Can be made in few hours from sand particles on seashores.	b) Erosion
3) The dropping of sediments in a new place.	c) Canyon
4) Movement of sediments from one place to another.	d) Weathering
5) Process in which rocks are broken down into smaller particles.	e) Sandcastle

1	2	3	4	5
.....	.....	.....	.....	.....

10)

Column (A)	Column (B)
1) Part of plant grows inside cracks of rocks causing its weathering.	a) Oxygen
2) It is a type of weathering through which acids of lichens dissolve minerals of rocks.	b) Mechanical weathering
3) A gas in air combines with iron of some rocks and causes its weakness.	c) Roots
4) The type of weathering in which the rocks are broken down due to temperature.	d) The hurricanes
5) They can carry sand for longer distance.	e) Chemical weathering

1	2	3	4	5
.....	.....	.....	.....	.....

11)

Column (A)	Column (B)
1) small solid materials of sand, soil, and small particles of rocks	a) Geologists
2) The process by which the wind carves the rocks into different shapes.	b) Sediments
3) The largest and most famous canyon on Earth.	c) Delta
4) Fan-shaped (triangular) mass of mud and other sediments.	d) Erosion
5) Scientists who study rocks	e) Valleys
6) They are lowland areas between mountains and have gently sloped sides around rivers.	f) The grand canyon

1	2	3	4	5	6
.....	.....	.....	.....	.....	.....

Give reason for the following:

1- A remote controlled toy car needs battery to move from one place to another.

➤ .....

2- Some calculators use the sunlight to be operated

➤ .....

3- Thermal energy in mobile phone is considered as a wasted energy.

➤ .....

4- When you rub your hands, you feel warm.

➤ .....

5- Water and wind are considered as renewable resources of energy.

➤ .....

6- Coal and gasoline are considered as non-renewable resources of energy.

➤ .....

7- Farmers must decrease the use of pesticides.

➤ .....

8- We must turn off lights and unplug devices when they are not used.

➤ .....

9- Humans used windmills and watermills in the past.

➤ .....

10- Iron in rocks may rust.

➤ .....

11- Geologists study the layers of sediments in rocks formations.

➤ .....

12- The oldest rock layers of Wadi Al-Hitan contain fossils of whales.

➤ .....

13- Trees and other plants are growing on both sides of small canyons.

➤ .....

14- A sand dune may be formed in front a large rock in desert.

➤ .....

### What happens when ...?

1- The charge of remote controlled toy car batteries is running out.

➤ .....

2- You turn on the T.V. (according to the change of energy).

➤ .....

3- You burn a piece of wood. (according to the change of energy).

➤ .....

4- You use a mobile phone for a long time. (according to the wasted energy).

➤ .....

5- People increase using the wood of trees as a source of fuel.

➤ .....

6- The remains of dead living organisms were buried under the Earth's surface over millions of years.

➤ .....  
.....

7- Lichens growing on rocks produce acids.

➤ .....  
.....

8- Red-colored rust is formed on some rocks.

➤ .....  
.....

9- More and more layers of sediments settle on the bottom of oceans and lakes.

➤ .....  
.....

10- A river carries sediments meet a sea.

➤ .....  
.....

11- A flat land if a water stream flows over it.

➤ .....  
.....

12- A river erodes the sediments of a mountain over a long period of time.

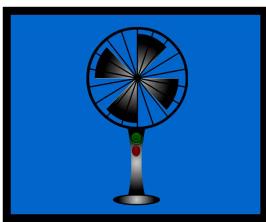
➤ .....  
.....

13- Wind that is carrying sand particles hits a big rock.

➤ .....  
.....

### Answer the following questions:

1- Study the opposite figure then answer the questions:



Input energy: 1) .....

2) .....

3) .....

Output energy: .....  
.....  
.....

## 2- Place the sentences in order of how the fossil fuel is formed:

....	The remains of plants and animals are covered by rocks and sediments.
....	The plants and animals on Earth get old or sick and die.
....	Heat and pressure from Earth turn plants into coal and animals into oil and gas.
....	Layers and layers of mud and sand build up over time.

## 3- These steps represent the generation of electricity in electric power stations. Arrange the following steps from the start to the end:

....	Steam starts to move turbines.
....	The petroleum or natural gas burns and produces thermal energy.
....	Electricity transfers through huge wires to cities.
....	The dynamo converts kinetic energy in turbines into electric energy
....	Thermal (heat) energy is used to heat water and produce steam.

## 4- We can decrease air pollution by consuming fewer fossil fuels. In your opinion how we can conserve fossil fuels?

- .....
- .....
- .....

## 5- Study the opposite figure then answer the questions:



(1)



(2)



(3)

- In figure (1) electricity can be generated from ..... movement.
- In figure (2) electricity can be generated from ..... movement.
- In figure (3) electricity can be generated from ..... energy.

# Final Revision

## (guide answers)

Complete the following sentences with one of words between brackets:

(1) ( six - chemical - battery - output - Sun - input - kinetic )

- 1- Sun is the main source of energy on earth's surface.
  - 2- Spacecraft needs more than six months to reach Mars.
  - 3- When you eat an orange your body converts the chemical energy stored inside the orange into kinetic energy when you move.
  - 4- Electrical energy is input energy in cellular phone to charge its battery.
  - 5- The output energy in the small watch is kinetic energy.
- 

(2)(electrical - stops - kinetic - chemical- heat - potential )

- 1- Batteries change chemical energy into electric energy.
  - 2- To operate an electric mixer we use electrical energy.
  - 3- When you press on the soap dispenser, you convert the potential energy stored in its spring into kinetic energy that moves the soap upward.
  - 4- In any energy chain, some of the energy is lost in the form of heat.
  - 5- When the fuel inside the car runs out, the car stops.
- 

(3)(long – turbines – burning – Acid rains – fossil – water )

- 1- We have to heat the water to produce steam which is used to turn turbines in the electric power station.
- 2- Air pollution is usually caused due to burning of fossil fuel.
- 3- Global warming is one of the disadvantages of burning fossil fuel.
- 4- The fossil fuel is formed underground from dead plants or animals after a very long period of time.
- 5- Acid rains formed when carbon dioxide combines with water in air.

(4)(renewable - kinetic – watermill – generator - windmill )

- 1- The water flow has kinetic energy, which moves the blades of watermill to generate electrical energy.
  - 2- The electricity that is generated by wind turbines is considered as renewable energy resource.
  - 3- When wind Kinetic energy increases, the blades of windmill spin more quickly.
  - 4- A wind turbine is connected to a generator that converts kinetic energy to electrical energy.
- 



(5) (Electrical – warms – solar cells – thermal – wires – batteries)

- 1- Solar panels made of many small solar cells that can generate electricity.
  - 2- Electrical energy and thermal energy are the two types of energy produced from solar panels.
  - 3- Solar cells that are found in some calculators produce electrical energy that is used to recharge their batteries.
  - 4- The sun warms the earth and the wind, causing air movement and wind blowing.
  - 5- Electricity is transferred to cities through huge wires.
- 

(6)(gravitational – kinetic – water – Hydroelectric – wind )

- 1- When the wind turbines rotate, kinetic energy is converted into electrical energy.
- 2- Kinetic energy created by wind movement is used to rotate the blades of wind turbines.
- 3- Kinetic energy created by water movement is used to rotate the blades of water turbines.
- 4- The reason of flowing of river water downhill is the gravitational force.

(7)(kinetic – potential – Dams – decrease – Hydroelectric – increase )

- 1- The amount of coal will decrease as the time passes.
  - 2- Hydroelectric energy is a type of electrical energy generated by water turbines in dams.
  - 3- Water of rivers stores great potential energy, when dam prevent the flow of water.
  - 4- When water of river is released, kinetic energy of falling water increases.
  - 5- Dams control the flow of water in rivers to generate electricity.
  - 6- Running water in rivers has kinetic energy.
- 



(8) (mechanical – increases – dissolved minerals – chemical – water)

- 1) The shape of coastal rocks is affected by the forces of water and wind.
  - 2) When water freezes, it expands. This means that its volume increases.
  - 3) Limestone caves are formed due to the combination of dissolved minerals.
  - 4) Plant roots help in the mechanical weathering of rocks.
  - 5) Limestone caves are formed by the action of chemical weathering.
- 

(9) (wind – erosion – water – gravity – shorter)

- 1) Gentle wind may carry sand for shorter distance.
- 2) Movement of sediments from a place to another represent erosion process.
- 3) Pulling down broken weathered rocks at mountainsides occurs by the effect of gravity.
- 4) Wind, water and gravity are natural factors that control erosion process.
- 5) Blowing of strong wind in the desert may form large sand dunes.

(10) (gravity – increases – water – canyon – gently – erosion – river)

- 1) If the rain falls over a small canyon for several times per year, its depth increases.
- 2) Wadi Nakhr in Oman is an example of canyon landform.
- 3) Canyon is formed by the effect of the stream of water.
- 4) The process of carving the rock into different shapes by wind blowing is erosion process.
- 5) Both of canyons and valleys have a river flow through their lowest points.
- 6) The sides of the canyon at the beginning of its formation are gently sloped.
- 7) The rainwater gathers in small streams due to the pulling force of gravity.

Choose the correct answer:

- 1- Energy is very important for most devices to .....  
a) operate      b) do their functions      c) move      d) all the previous
- 2- The energy source in toy car is .....  
a) engine      b) tires      c) battery      d) fuel
- 3- When batteries run out, devices .....  
a) operate      b) move      c) stop      d) do their functions
- 4- When batteries run out, we must .....  
a) charge it      b) change it      c) burn it      d) a and b
- 5- Spacecraft takes several ..... to travel from earth to mars.  
a) minutes      b) days      c) months      d) years
- 6- Curiosity rover is designed to explore .....  
a) Earth planet      b) moon      c) mars planet      d) the sun
- 7- Curiosity is the most famous ..... on mars.  
a) Planet      b) robot      c) rocket      d) spacecraft
- 8- Robots and vehicles are operated by.....  
a) electric chargers      b) long-term batteries  
c) solar panels      d) b and c



9- The electrical energy changes in hair dryer into ..... and ..... energies.

- a) sound – thermal
- b) kinetic – light
- c) thermal – light
- d) light – sound

10- Heat energy is the ..... energy in hair dryer.

- a) input
- b) output
- c) wasted
- d) lost

11- Electrical energy changes inside light bulb into ..... and ..... Energies.

- a) sound – thermal
- b) kinetic – light
- c) thermal – light
- d) light – sound

12- When a piece of coal is burnt, ..... energy is produced.

- a) sound
- b) kinetic
- c) thermal
- d) potential

13- The ..... Changes electrical energy into light and sound energies.

- a) TV
- b) cellular phone
- c) radio
- d) a and b

14- Light energy is produced from all the following devices except .....

- a) TV
- b) cellular phone
- c) radio
- d) electric lamp

15- Sound energy is produced from all the following devices except

- a) TV
- b) cellular phone
- c) radio
- d) electric iron

16- In hair dryer and electric water kettle, the electrical energy changes into ..... energy.

- a) electrical
- b) kinetic
- c) thermal
- d) potential

17- Due to friction of bikes's tire and road some kinetic energy is converted into ..... energy.

- a) sound
- b) light
- c) thermal
- d) potential

18- Which kind of energy is NOT produced by the sun?

- a) heat energy
- b) light energy
- c) mechanical energy
- d) solar energy

19- Which form of energy is not used or produced when electric lamp is turned?

- a) Electrical
- b) light
- c) sound
- d) thermal

20- When you use the hand bell the ..... energy changes into sound energy.

- a) electrical
- b) light
- c) kinetic
- d) thermal

21- Which sentences shows the energy changes in the flash light in correct order?

- a) Chemical – electrical – light
- b) electrical – chemical – light
- c) light – electrical – chemical
- d) electrical – light – chemical

22- During charging a mobile phone, the ..... energy is converted into ..... energy that is stored in the phone battery.

- a) electrical — chemical
- b) chemical — thermal
- c) electrical — thermal
- d) thermal — chemical



23- During the running of a player the chemical energy inside his body is converted into ..... and ..... energies.

- a) potential – light
- b) kinetic – light
- c) kinetic – thermal
- d) thermal – light

24- The output energy when playing a drums is the ..... energy.

- a) electrical
- b) light
- c) potential
- d) sound

25- You feel warm when you rub your hands because ..... energy transformed into thermal energy.

- a) electrical
- b) light
- c) kinetic
- d) sound

26- The produced ..... energy does not help the blender do its job.

- a) Chemical
- b)sound
- c) light
- d) potential

27- In the washing machine, the ..... energy changes into kinetic and sound energies.

- a) light
- b) electrical
- c) thermal
- d) potential

28- ..... is used in electric power stations to produce electricity.

- a) Water
- b) Coal
- c) Food
- d) Green plants

29- "Energy is saved", this is known as the.....

- a) Law of Conservation of Energy
- b) Law of Attraction Force
- c) First Law of Newton
- d) Second Law of Newton

30- If the ..... energy doesn't go through the television's wire, it will not turn on.

- a) electrical
- b) light
- c) kinetic
- d) sound

31- Vehicles on Mars change solar energy into ..... energies to operate their sensors and to move on Mars.

- a) electrical
- b) heat
- c) kinetic
- d) all the previous

32- All these devices consume electric energy, except.....

- a) TV
- b) cellular phone
- c) radio
- d) solar cells

33- ..... consume electric energy.

- a) Solar cells
- b) Batteries
- c) Solar heaters
- d) Cellular phones

34- Electric energy is ..... in the electric heater.

- a) Consumed
- b) produced
- c) wasted
- d) destroyed

35- Electric wires are made of .....

- a) copper
- b) wood
- c) glass
- d) paper

36- When you use the hand bell, the ..... energy changes into sound energy.

- a) light
- b) thermal
- c) kinetic
- d) electric

37- The two main types of fuel are .....

- a) wood and coal
- b) wind and water
- c) the sun and the moon
- d) biofuel and fossil fuel.

38- ..... is an example of biofuel.

- a) Petroleum
- b) Natural gas
- c) Coal
- d) corn plant

39- Car engine can be operated by .....

- a) coal only
- b) coal and wood
- c) gasoline only
- d) gasoline and natural gas

40- All the following are renewable source of energy except .....

- a) Wind
- b) Sun
- c) Biofuel
- d) petroleum

41- ..... is (are) from the importance of fuel.

- a) Operating cars
- b) Generating electricity
- c) Warming houses
- d) All the previous

42- All the following are found deeply under the earth's surface except .....

- a) Oil
- b) green plants
- c) natural gas
- d) coal

43- All the following are used to generate electrical energy, except .....

- a) rain water
- b) waterfalls
- c) natural gas
- d) oil

- 44- All the following factors play an important role in the formation of fossil fuel, except .....  
a) extreme pressure. b) extreme heat.  
c) The moon light. d) rocks and sediment

45- The fuel must be ..... at first to move a car.  
a) freezed b) burned inside the car engine.  
c) cooled d) removed from the fuel tank.

46- Ancient people use ..... as a fuel before discovering gasoline.  
a) water b) electricity c) wood d) wind

47- All the following are forms of fuel, except .....  
a) wood b) natural gas c) gasoline d) glass

48- From the disadvantages of biofuel is (are) .....  
a) cutting trees b) removal of forests  
c) air pollution d) a and b

49- Coal is formed under the earth's surface from the remains of .....  
a) Dead animals b) dead plants  
c) dead humans d) dead insects

50- The non-renewable resources of energy take ..... to be formed.  
a) Short period of time b) few hours  
c) few minutes d) a very long period of time

51- Both coal and charcoal .....  
a) are renewable resources of energy.  
b) are non-renewable resources of energy.  
c) are examples of biofuel.  
d) produce thermal energy on burning.

52- Ethanol is a liquid fuel produced from.....  
a) grass b) corn c) wood chips d) all the previous

53- Some forms of fuel can be used in cooking such as .....  
a) Wood b) coal c) natural gas d) all the previous





54- We can use the energy obtained from burning of wood in all of the following situations, except .....

- a) warming houses.
- b) operating television.
- c) cooking food.
- d) boiling water.

55- Hydroelectric energy is generated from .....

- a) waterfalls only.
- b) waterfalls and dams.
- c) biofuel only.
- d) biofuel and fossil fuel

56- ..... can be used in electric power stations to generate electricity.

- a) Coal
- b) oil
- c) natural gas
- d) all the previous

57- The rate of consumption of fossil fuel is ..... the rate of its formation.

- a) more than
- b) less than
- c) equal to
- d) no correct answer

58- Which of the following forms of fuels can be manufactured by man?

- a) Oil and natural gas.
- b) Oil and charcoal.
- c) Natural gas and ethanol.
- d) Charcoal and ethanol

59- We can use the energy that is produced from..... To produce electricity.

- a) renewable resources only
- b) non-renewable resources only
- c) a and b
- d) no correct answer

60- The amount of ..... is limited on Earth.

- a) biofuel
- b) fossil fuel
- c) non-renewable energy resources
- d) b and c

61- ..... moves the turbines in electric power stations.

- a) Air
- b) Steam
- c) Water
- d) No correct answer

62- Cars smog cause irritation of ..... of humans.

- a) stomach and eyes
- b) eyes and lungs
- c) small intestine
- d) brain

63- Burning of fossil fuel produces .....

- a) thermal energy.
- b) gases that pollute the air and solar energy.
- c) gases that pollute the air.
- d) a and c.



**64- Among the following resources, we must conserve .....**

- a) solar energy and coal.
  - b) solar energy and wind energy.
  - c) wind energy and oil.
  - d) oil and coal.

**65-People use machines to .....**

- a) make their life easier
  - b) save their effort
  - c) get tasks done faster
  - d) all the previous

**66-Both modern wind turbines and water turbines are similar in their .....**

- a) shape.
  - b) ability to generate electrical energy.
  - c) blades number
  - d) length

**67-The wind movement has ..... energy which moves the windmill's blades.**

- a) Kinetic      b) solar      c) thermal      d) potential

68- ..... depends on a renewable source of energy.

- a) Petroleum oven    b) Gas oven    c) Solar cell    d) Flashlight

69-In the absence of sunlight, all the following items will be affected, except

- a) plants      b) human      c) rocks      d) animals.

70-..... can turn a turbine to generate electricity.

- a) Wind blowing
  - b) water flowing
  - c) burning coal
  - d) all the previous

**71-Which of the following pairs of materials are good natural resources for providing energy?**

- a) gravel and oil
  - b) trees and carbon dioxide
  - c) the ocean and soil
  - d) wind and natural gas

72-Using of water to generate electricity depends on places .....

- a) with strong winds.
  - b) where dams are built on rivers.
  - c) with weak winds.
  - d) where boats sail in rivers.

73-Using of wind to generate electricity depends on places .....

- a) with strong winds.
  - b) where dams are built on rivers.
  - c) with weak winds.
  - d) where boats sail in rivers.

74- Sand is formed due to breaking down of .....

- a) glass      b) plastic      c) wood      d) rocks.



- 86- The delta is formed when the river stream entering all of the following, except.....

a) a lake      b) a sea      c) a mountain      d) an ocean

87- Among the examples of fast changes of landforms is the disappearance of

a)canyons      b) valleys      c) mountains      d) sandcastle

88- Each of the following plays a role in erosion process, except .....

a) blowing wind    b) water floods    c) sunlight    d) Earth's gravity.

89- A canyon can be formed by the effect of .....

a) water only      b) wind only  
c) water and wind      d) water and sunlight

90- A canyon may take ..... of years to be formed.

a) hundreds      b) tens      c) millions      d) couple

91- Among canyons which has V-shape are .....

a) Wadi Nakhr and the Small Canyon.  
b) the Colored Canyon and Wadi Rum.  
c) the Small Canyon and the Colored Canyon.  
d) Wadi Nakhr and Wadi Rum.

92- If the big rocks of a mountain were broken off, this is an evidence of .....

a) weathering process only      b) weathering and erosion processes  
c) erosion process only      d)weathering and deposition processes

93- Nile River Delta in Egypt is formed due to ..... process.

a) chemical weathering      b) erosion  
c) mechanical weathering      d) deposition

94- ..... can erode valleys and form canyons across them.

a)Rivers      b) Mountains      c) Dunes      d) Rocks

95- The shape of the valley depends upon all of the following factors, except

a) type of rocks      b) speed of the river  
c) size of rocks      d) size of the river

96- Rivers that flow fast can cause more ..... than rivers with slow flow.

a)erosion      b) weathering      c) deposition      d) formation

97- ..... has brown and black colors.

- a) Wadi Nakhr
- b) Wadi Rum
- c) Small Canyon
- d) Colored Canyon

98- Walls of canyons are characterized by all the following, except that they

- a) are very high
- b) are gently sloped
- c) have great depth
- d) consist of many rock layers

99- Sand dunes are common landforms between .....

- a) rainforest and sandy desert
- b) beach and rainforest
- c) sandy desert and oceans
- d) beach and sandy desert

100- When a rock blocks the path of flying sand, a ..... may be formed

- a) dune
- b) river
- c) valley
- d) canyon

101- Among the examples of sedimentary rocks which present in Wadi Al-Hitan is/are.....

- a) sandstone only
- b) limestone only
- c) both sandstone and limestone
- d) no correct answers

102- The large skeletons of whales that are present in Wadi Al-Hitan considered as an example of .....

- a) fossils
- b) rocks
- c) sediments
- d) formations

103- All the following skeletons can be found in Wadi Al-Hitan, except the skeleton of.....

- a) whales
- b) human
- c) turtles
- d) crocodiles.

104- The formation of sand dunes in Eastern Desert in Egypt is due to the movement of.....

- a) floods
- b) winds
- c) waves
- d) rains.

Complete the following sentences:

- 1- In the battery of a toy car chemical energy changes into electrical energy.
- 2- The wasted energy in the hair dryer is sound energy.
- 3- Any energy chain starts with the sun.
- 4- Green plants can convert light energy from the sun into chemical energy stored inside plants body.

- 5-Electric lamps consume electric energy.
- 6- We burn trees to get heat energy.
- 7- Solar cells change solar energy into electrical energy.
- 8- The number of blades in a modern mill is less than the number of blades in an old windmill.
- 9-Both coal and wood produce thermal energy on burning them.
- 10- Water flows through turbines in dams to generate electrical energy.
- 11-Both wind movement and water flow has kinetic energy.
- 12- Shaping the Earth is usually starts by weathering process.
- 13- The type of weathering in which the structure of rocks changes due to chemical reactions is known as chemical weathering
- 14- Lichens produce acids on rocks that dissolve minerals found in these rocks.
- 15- Oxygen in air reacts with iron of some rocks forming red colored rust.
- 16- Gentle winds can form small sand dunes like that present at sea beaches.
- 17- Weathering and erosion are the two processes that have the main role in formation of canyons.
- 18- Sand dunes are formed due to erosion and deposition processes at the same time.
- 19- Sand dunes are common landforms between desert and beach.
- 20- Canyon is a special type of valleys which its sides are steep.
- 21- When the speed of the water stream that is run over a mountain increases, the rate of erosion will increase.
- 22- When the sides of a valley become steep, this valley may be changed into a canyon.
- 23- 40 millions of years ago, Wadi Al-Hitan was covered by a sea.
- 24- The separated layers of sedimentary rocks are called formations.
- 25- Wind erosion can carve the rocks into different forms.
- 26- Sand dunes may reach hundreds of meters tall.
- 27- Wind force and direction affect the distance and the way of sand that travel through air.

## Put (✓) or (X) then correct the wrong:

- 1-Electricity is a form of energy found in the food we eat. (x)
- 2-Energy can't be changed from one form to another. (x)
- 3-Energy is neither created nor destroyed. (✓)
- 4-We can continue to move a toy car even after its battery runs out. (x)
- 5-Toy cars depend on fuel as a source of electrical energy. (x)
- 6-Solar energy is the energy consumed in solar cells. (✓)
- 7-Batteries produce chemical energy. (x)
- 8-Cellular phones change electrical energy into sound and light energies. (✓)
- 9-Energy may be destroyed inside different devices. (x)
- 10-Dynamo (generator) is used to produce electrical energy. (✓)
- 11-Small watches consume kinetic energy. (x)
- 12-We can convert the solar energy into different forms of energy. (✓)
- 13-Light energy from the Sun causes trees to grow. (✓)
- 14-Electric bulb depends on chemical energy to be operated. (x)
- 15-You feel hot when you approach your hand to an electric bulb. (✓)
- 16-Both electric bulb and electric heater produce thermal energy. (✓)
- 17-While playing a guitar, the electrical energy changes into sound energy. (x)
- 18-You need gasoline to move a bicycle. (x)
- 19-We cannot drive a car that doesn't contain fuel. (✓)
- 20-Biofuel is one of non-renewable resources of energy. (x)
- 21-Extreme cooling under the Earth's surface, helps in the formation of oil. (x)
- 22-Charcoal is made up of grass, corn or wood chips. (x)
- 23-Coal is the source of heat energy in fireplaces. (✓)
- 24-Water and oil are two renewable resources of energy. (x)
- 25-Petroleum oil is considered as a non-renewable source of energy. (✓)
- 26-Flashlight depends on a non-renewable source of energy. (✓)
- 27-We can make a liquid fuel from grass and wood chips. (✓)
- 28-All forms of fossil fuel are formed under the earth's surface. (✓)

- 29-Water is renewable as it is recycled in nature. (v)
- 30-Plugging many unused electrical appliances conserve electrical energy. (x)
- 31-Turning off lights that we do not need, is a way to conserve electricity. (v)
- 32-To reduce pollution and preserve non-renewable resources of energy, we must decrease their using. (v)
- 33-The amount of oil on the Earth is limited. (v)
- 34-Acid rains cause soil and water pollution. (v)
- 35-As a result of global warming, the temperature on the Earth increases. (v)
- 36-Waterfalls are from the renewable sources of energy. (v)
- 37-Windmill turbines generate electricity by using the energy of water. (x)
- 38-Windmills can do their job all the time as the wind never stops blowing. (x)
- 39-Both Windmills and watermills are used to grind grains to make flour. (v)
- 40-Placing large windows on the walls that face the Sun helps in warming houses. (v)
- 41-The difference in temperature between cold and hot air causes air to stop. (x)
- 42-When the water of rivers falls from a high slope, potential energy is converted into kinetic energy. (v)
- 43-Electrical energy can be generated from both waterfalls and wind movement. (v)
- 44- A modern wind turbine is taller than an old windmill. (v)
- 45-Dams are built on rivers to control the wind flow. (x)
- 46-Water turbines are used to generate electricity in places which have waterfalls or dam. (v)
- 47-Weathering process happens over short period of time. (x)
- 48-Water and wind are artificial forces that are responsible for the erosion of sea coasts. (x)
- 49-The surface of the Earth changes from time to time. (v)
- 50-Wind cannot break down rocks. (x)
- 51-Breaking of statues is an example of weathering. (v)

- 52-Rusting of statues is an example of mechanical weathering. (x)
- 53-Wind can be considered one of the factors that cause weathering. (v)
- 54-When iron in rocks rusts, the rock becomes stronger. (x)
- 55-All physical factors of mechanical weathering lead to breaking down of rocks. (v)
- 56-The effect of erosion may last for hundreds of years. (v)
- 57-Deposition process never changes the shape of the land. (x)
- 58-Sea waves may cause erosion of benches. (v)
- 59-Blowing of wind and flooding of water play an important role in erosion process. (v)
- 60-Sedimentary rocks are formed in a short period of time. (x)
- 61-When the water is moving over the sand, It leaves an impression on it. (v)
- 62-Canyon may take one year only to be formed. (x)
- 63-Canyon may be formed due to the effect of wind weathering and erosion. (v)
- 64- Wadi Rum in Jordan is an example of dune. (x)
- 65-Rivers cause less erosion of rocks than small streams. (x)
- 66-Both canyons and valleys often have river in their bottom. (v)
- 67-The walls of valleys are vertical and steep. (x)
- 68-Wadi Al-Hitan has always looked as it does now. (x)
- 69-At Wadi Al-Hitan, the oldest rocks are found at the top of the layers. (x)
- 70-Wind can pick up sand grains in forming sand dunes. (v)
- 71-Sand dunes are formed by erosion only. (x)
- 72-Sand dunes usually seen separately, and may cover a small area. (x)

**Choose from column (B) what suits it in column (A) :**

1)

Column (A)	Column (B)
1-Energy neither created nor lost but is converted from one form to another.	a) sun
2- Energy consumed to operate devices.	b) law of conservation
3- The main source of energy on earth.	c) wasted energy
4- Energy produced from device but not used	d) input energy

1	2	3	4
b	d	a	c

2)

Column (A)	Column (B)
1-It stores chemical energy.	a)generator
2-Changes electrical energy into heat energy.	b)Electric mixer
3-turns kinetic energy into electrical energy.	c) Electric iron
4- Convert electrical energy into kinetic energy.	d)battery

1	2	3	4
d	c	a	b

4)

Column (A)	Column (B)
1- energy produced in the solar heater.	a) Kinetic energy.
2- Input energy in hair dryer.	b) Sound energy.
3- energy produced from the electric fan.	c) electrical energy.
4- output energy when playing a piano	d) Heat energy.

1	2	3	4
d	c	a	b

5)

(A)	(B)
1-Petroleum oil	a) The oldest renewable fuel that is used all over the world.
2- Biofuel	b) The main source of energy and fuel
3-Charcoal	c) Is a type of fossil fuel and is the energy source in gas oven
4-Wood	d) Is a type of fossil fuel that is produced from dead old marine organisms.
5- Sun	e) Fuel made from living things that can be planted.
6-Fossil fuel	f) Is a type of biofuel made up from wood.
7-Natural gas	g) Fuel made from remains of living things that decomposed millions of years ago.

1	2	3	4	5	6	7
d	e	f	a	b	g	c

6)

Column (A)	Column (B)
1-Smog	a) Is resulted from burning of fossil fuels.
2-Air pollution	b) The natural resources that can be replaced shortly after being used.
3-Global warming	c) Device in the electric power station that operated by steam.
4-Renewable energy resources	d) A phenomenon in which the Earth's temperature increases.
5- Pesticides	e) Cause water and soil pollution.
6- Turbine	f) Cause damage to tissues of respiratory system.

1	2	3	4	5	6
f	a	d	b	e	c

7)

Column (A)	Column (B)
1-Were used to grind grains.	a) Dams
2-A fuel used in fireplace.	b) Greenhouses
3-Control the flow of water in rivers.	c) convergent mirrors
4-The natural resources that are consumed at a rate faster than they can be renewed.	d) Non-renewable resources of energy
5- Help farmers in planting crops that need hot weather.	e) Coal
6-A type of mirrors that is used to collect and focus sunlight onto metal pots for cooking.	f) windmills

1	2	3	4	5	6
f	e	a	d	b	c

8)

Column (A)	Column (B)
1- Device that turns when the wind blows.	a) Solar water heater
2-Device consists of panels made of black pipes used to heat water.	b) radiant energy
3-Designed to absorb the Sun to generate electricity.	c) Water turbine
4-A type of energy found in sun rays.	d) Solar panels
5-A turbine that converts the energy of falling water into electrical energy.	e) Wind turbine

1	2	3	4	5
e	a	d	b	c

9)

Column (A)	Column (B)
1) Deep valleys that are carved by flowing of water.	a) Deposition
2) Can be made in few hours from sand particles on seashores.	b) Erosion
3) The dropping of sediments in a new place.	c) Canyon
4) Movement of sediments from one place to another.	d) Weathering
5) Process in which rocks are broken down into smaller particles.	e) Sandcastle

1	2	3	4	5
c	e	a	b	d

10)

Column (A)	Column (B)
1) Part of plant grows inside cracks of rocks causing its weathering.	a) Oxygen
2) It is a type of weathering through which acids of lichens dissolve minerals of rocks.	b) Mechanical weathering
3) A gas in air combines with iron of some rocks and causes its weakness.	c) Roots
4) The type of weathering in which the rocks are broken down due to temperature.	d) The hurricanes
5) They can carry sand for longer distance.	e) Chemical weathering

1	2	3	4	5
c	e	a	b	d

11)

Column (A)	Column (B)
1) small solid materials of sand, soil, and small particles of rocks	a) Geologists
2) The process by which the wind carves the rocks into different shapes.	b) Sediments
3) The largest and most famous canyon on Earth.	c) Delta
4) Fan-shaped (triangular) mass of mud and other sediments.	d) Erosion
5) Scientists who study rocks	e) Valleys
6) They are lowland areas between mountains and have gently sloped sides around rivers.	f) The grand canyon

1	2	3	4	5	6
b	d	f	c	a	e

Give reason for the following:

- 1- A remote controlled toy car needs battery to move from one place to another.
  - Because the chemical energy stored in the battery is changed into electrical and kinetic energy.
- 2- Some calculators use the sunlight to be operated
  - Because sunlight is converted into electrical energy that operate the calculator.
- 3- Thermal energy in mobile phone is considered as a wasted energy.
  - Because it doesn't help the device to do its function.
- 4- When you rub your hands, you feel warm.
  - Because kinetic energy is changed into thermal energy.
- 5- Water and wind are considered as renewable resources of energy.
  - Because they can be replaced shortly after being used.

- 6- Coal and gasoline are considered as non-renewable resources of energy.  
➤ Because they are consumed at a rate faster than they can be renewed.
- 7- Farmers must decrease the use of pesticides.  
➤ Because pesticides cause water and soil pollution.
- 8- We must turn off lights and unplug devices when they are not used.  
➤ To conserve electricity.
- 9- Humans used windmills and watermills in the past.  
➤ To crush grains to make flour.
- 10- Iron in rocks may rust.  
➤ Because iron reacts with oxygen of air.
- 11- Geologists study the layers of sediments in rocks formations.  
➤ To learn about kinds of living organisms existed there long ago, and know how landscapes looked like in the past.
- 12- The oldest rock layers of Wadi Al-Hitan contain fossils of whales.  
➤ Because a deep sea once existed there in the past.
- 13- Trees and other plants are growing on both sides of small canyons.  
➤ Due to flow of water stream.
- 14- A sand dune may be formed in front a large rock in desert.  
➤ Because the rock blocks the path of the sand carried by wind.

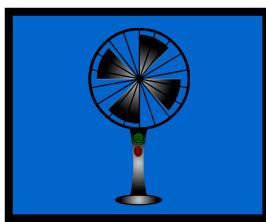
### What happens when ...?

- 1- The charge of remote controlled toy car batteries is running out.  
➤ The toy car stopped working.
- 2- You turn on the T.V. (according to the change of energy).  
➤ Electrical energy is converted into light and sound energy.
- 3- You burn a piece of wood. (according to the change of energy).  
➤ Chemical energy is converted into heat.
- 4- You use a mobile phone for a long time. (according to the wasted energy).  
➤ Some energy is wasted as thermal energy.

- 5- People increase using the wood of trees as a source of fuel.
- Cause deforestation.
- 6- The remains of dead living organisms were buried under the Earth's surface over millions of years.
- Fossil fuel formation.
- 7- Lichens growing on rocks produce acids.
- Acids will dissolve minerals in rocks causing their breaking down.
- 8- Red-colored rust is formed on some rocks.
- Rocks become weak and can easily break down.
- 9- More and more layers of sediments settle on the bottom of oceans and lakes.
- Sedimentary rocks are formed.
- 10- A river carries sediments meet a sea.
- Delta may be formed.
- 11- A flat land if a water stream flows over it.
- Canyon may be formed.
- 12- A river erodes the sediments of a mountain over a long period of time.
- Canyon may be formed.
- 13- Wind that is carrying sand particles hits a big rock.
- Sand dunes may be formed.

**Answer the following questions:**

- 1- Study the opposite figure then answer the questions:



Input energy: 1) electrical

2) electrical

3) chemical

Output energy: sound

kinetic

thermal

2- Place the sentences in order of how the fossil fuel is formed:

2	The remains of plants and animals are covered by rocks and sediments.
1	The plants and animals on Earth get old or sick and die.
4	Heat and pressure from Earth turn plants into coal and animals into oil and gas.
3	Layers and layers of mud and sand build up over time.

3- These steps represent the generation of electricity in electric power stations. Arrange the following steps from the start to the end:

3	Steam starts to move turbines.
1	The petroleum or natural gas burns and produces thermal energy.
5	Electricity transfers through huge wires to cities.
4	The dynamo converts kinetic energy in turbines into electric energy
2	Thermal (heat) energy is used to heat water and produce steam.

4- We can decrease air pollution by consuming fewer fossil fuels. In your opinion how we can conserve fossil fuels?

- Turn off lamps if we don't need them.
- Use public transportation.
- Walk instead of driving cars.

5- Study the opposite figure then answer the questions:



(1)



(2)



(3)

- In figure (1) electricity can be generated from wind movement.
- In figure (2) electricity can be generated from water movement.
- In figure (3) electricity can be generated from solar energy.

# Final Revision –Second Term



## Complete the following:

- 1-Both ..... and ..... are used to grind grains to make flour hundreds of years ago, but now we use them to generate .....
- 2-In any energy chain, some of the energy is lost in the form of .....
- 3-Wood and ..... are examples of biofuel, while ..... and ..... are examples of fossil fuels.
- 4-When you ride a bicycle, the ..... energy stored in your body is converted into ..... energy which cause the bicycle to move.
- 5-When we expose our bodies to the sun we feel .....
- 6-The energy can be ..... from one form to another.
- 7-Blowing of strong ..... in the desert may form large .....
- 8-There are two types of weathering which are ..... weathering and ..... weathering.
- 9-Dams control the flow of ....., that causes the increase of the ..... energy of water.
- 10-The origin of sand is the breaking down of some types of .....
- 11-The type of weathering in which the rocks are broken down due to the presence of plant root is known as ..... weathering.
- 12-The change of electrical energy into sound energy in the radio is an example that proves the law of .....
- 13-The natural resources that can be replaced shortly after being used are called ..... resources energy.
- 14-The output energy of burning coal is ..... energy, which is used to produce ..... energy in electric power station in order to generate electrical energy.
- 15-The output energy that helps the washing machine to do its main function is ..... energy, and this energy is considered the ..... energy of the hand bell.
- 16-The input energy of the toy car is ..... energy that is stored in its battery and then converted into ..... Energy in its wires to operate its motor.



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- 17-The generator in electric power station changes ..... energy into ..... energy.
- 18-Radiant energy is used to generate electricity directly by using ....., or indirectly as it causes blowing of ..... that is used to rotate wind turbines.
- 19-A wind turbine spins faster when the kinetic energy of ..... increases.
- 20-The energies that are used in modern wind turbines and old windmills are considered as ..... energy resources.
- 21-Remote controlled of toy cars changes ..... energy stored in its batteries into ..... energy that is turn changes into ..... energy which is used to move the car.
- 22-When you rub your hands together, the ..... energy is converted into ..... energy.
- 23-Coal, ..... and ..... can be used in generating electricity.
- 24-Wind turbines and windmills use the energy of ..... to be powered.
- 25-The ..... weathering makes greater changes than ..... weathering.
- 26-Chemical and mechanical wreathing can be caused by ..... which on freezing turned into ice.
- 27-If the color of a statue changes and it is broken into small pieces, this means both types of ..... happened to it.
- 28-During ..... process, rocks are broken down or wore away.
- 29-Formation of limestone caves is an example of ..... weathering.
- 30-Both of valleys and canyons often have ..... or streams flow through their lowest point.
- 31-Deltas are formed when the ..... of the river water decreases, which cause ..... of sediments.
- 32-When the sides of a valley become steep, this valley may be changed into a .....
- 33-The energy can be ..... from one form to another.
- 34-To operate an electric mixer we use ..... energy.
- 35-When your cell phone is out of charge, you must recharge its ..... to operate again.



- 36-Some calculators can change solar energy into ..... energy by using .....
- 37-On planet Mars, curiosity robot is operated by using ..... energy from sunlight that is converted into ..... energy used to recharge its batteries.
- 38-The unusable energy that produced from the electric lamp is .....
- 39-.....is a renewable energy resource.
- 40-When rocks break down into small pieces, this indicates the occurrence of .....
- 41-Fossil fuel includes oil, ..... and .....
- 42-Global warming causes the raise of ..... on Earth and changes its climate.
- 43-When the ..... energy of wind increases, the speed of rotation of turbine blades will increase.
- 44-The process in which rocks are broken down into smaller particles is called .....
- 45-In hand bell kinetic energy is converted into ..... energy.
- 46-Fuel is used as a source of ..... energy.
- 47-The shape of coastal rocks is affected by the force of ..... and wind.
- 48-Coal and oil are considered as ..... resources of energy.
- 49-The force that pulls down broken rocks at mountain side is called.....
- 50-Wind turbines are used to generate.....
- 51-When the force of wind is ..... , the sand cannot travel for a long distance.
- 52-We need ..... energy for cooking food and warming houses.
- 53-..... is a deep valley carved by flowing water.
- 54-The Sun provides Earth with light and .....
- 55-Energy produced from the radio which helps the device do its main function is ..... energy.

### **Choose the correct answer:**

- 1-Toy cars need energy to do all the following functions, except .....
- a-moving forward and backward                      b-rotation in circle  
c-moving right and left                            d-rotation around the moon.



2-Sand is formed due to breaking down of .....

- a-glass      b-wood      c- rock      d- plastic

3-Between forms of fuel that present in car fuel stations are .....

- a-gasoline and wood      b-natural gas and coal  
c-wood and coal      d-gasoline and natural gas

4-All of the following are examples of renewable energy resources, except .....

- a-fossil fuel      b-waterfalls      c-wind      d-sunlight

5-The input energy when using the hair dryer is the ..... energy.

- a-Electrical      b-potential      c- kinetic      d-thermal.

6-Water flows through turbines in dams to generate ..... energy.

- a-electrical      b-potential      c-solar      d-light

7-Fossil fuels need ..... to be formed under the Earth's surface.

- a-five years      b-ten years  
c-hundreds of years      d-millions of years

8-The steps of forming fossil fuel, don't include ..... of the remains of the living organisms.

- a-decaying      b-cooling      c-burying      d-heating

9-All the following are processes that can change the Earth's surface, except .....

- a-digestion      b-erosion      c-weathering      d-deposition

10-Electric wires are made of .....

- a-copper      b-carbon      c-wood      d-glass

11-All the following are forms of fuel, except .....

- a-wood      b-natural gas      c-gasoline      d-glass

12-The sun provides us with ..... and .....

- a-sound – heat      b-light – electricity  
c-sound – light      d-heat – light

13-All the following are renewable energy resources, except .....

- a-waterfalls      b- coals      c- the Sun      d- wind

14-Hydroelectric energy is generated from .....

- a-waterfalls only      b-waterfalls and dams  
c-biofuel only      c- biofuel and fossil fuel



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15-Both hair dryer and electrical water kettle produce ..... Energy

- a-chemical      b-thermal      c-light      d-potential

16-Some electrical devices need ..... energy to be recharged

- a-electrical      b- thermal      c-potential      d-sound

17-When you use the hand bell, the ..... energy changes into sound energy.

- a-light      b-thermal      c-kinetic      d-electrical

18-Using convergent ..... sheets in cooking food is one of the benefits of using the solar energy.

- a-paper      b-plastic      c-mirror      d-wooden

19-River water evaporates by the help of heat produced from .....

- a-kettles      b-the Sun      c-electric heaters      d-electric iron

20-Extreme heat and pressure under the Earth's surface has an important role in forming .....

- a-wood      b-wind      c-fossil fuel      d-biofuel

21-When a river meets a sea or an ocean, a landform known as ..... is formed.

- a-canyon      b-volcano      c-mountain      d-delta

22-Oil is a non-renewable energy resource that is used inside a .....

- a-flash light                          b-car engine  
c-electric fan                            d-washing machine

23-It takes several ..... for a spacecraft to travel from Earth to Mars.

- a-seconds      b-minutes      c-days      d-months.

24-You feel warm when you rub your hands together, because ..... energy

- a-thermal      b-light      c-electrical      c-sound

25-Sound and ..... energies are from output energies when operating the mobile phone.

- a-electrical      b-potential      c-chemical      d-light

26-We can use the energy obtained from burning of wood directly in all of the following situations, except .....

- a-warming houses                        b-operating television  
c-cooking food                             d-boiling water



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27-When land and water areas on Earth absorb the solar energy, the ..... increases

- a-temperature on Earth      b-speed of rotation on Earth  
c-speed of rotation on moon      d-Speed of rotation of Sun.

28-Some kinetic energy is converted into ..... energy due to friction of bike's tire with the road.

- a-light      b-electrical      c-potential      d-thermal

29-Using water to generate electricity depends on places.....

- a-with strong winds      b-where dams are built on rivers  
c-with weak wind      d-where boats sail in rivers

30-Inside the electric power station, heating of..... produce steam.

- a- turbines      b-generators      c-water      d-fuel

31-While playing guitar, the ..... energy changes into sound energy.

- a-kinetic      b-light      c-chemical      d-potential

32-The output energy when playing drums is the ..... energy.

- a-chemical      b-light      c- sound      d-potential

33-If the rain falls over a canyon for several times per year, .....

- a-it depth increases      b-its depth decreases  
c-it becomes flat      d-it is not affected

34-When the wind turbine blades rotate, this causes wind turbines to rotate and generating ..... energy

- a-electrical      b-solar      c-chemical      d-potential

35-All the following are forms of fossil fuel, except.....

- a-water      b-coal      c-natural gas      d-oil

36-Which of the following is a renewable energy resources?

- a-running bicycle      b-running car  
c-running water      d-running person

37-Curiosity rover is designed to explore .....

- a-Earth planet      b-Mars planet      c-the sun      d-the moon

38-The change of energy in an ..... is opposite to the change of energy in a wind turbine.

- a-electrical bell      b-electric heater  
c-electric iron      d- electric fan



39-All the following factors play an important role in the formation of fossil fuel, except.....

- a-extreme pressure                      b-extreme heat  
c-the moon light                      d-rocks and sediment.

40-To move a car, the fuel must be ..... The car engine at first.

- a-freeze inside                      b-Cooled inside  
c-burned inside                      d-removed from

41-By rubbing hands ..... energy is changed into thermal energy.

- a-chemical                      b-kinetic                      c-sound                      d-potential

42-..... is a type of biofuel which is made of wood.

- a-Coal                      b-Oil                      c-Charcoal                      d-Natural gas

43-..... causes mechanical weathering.

- a-Oxygen                      b-Acid rain  
c-Lichens                      d-Wind

44-When rock blocks the path of flying sand, a ..... may be formed.

- a-dune                      b-river                      c-valley                      d-canyon

45-To move a car, the fuel must be ..... The car engine at first.

- a-freeze inside                      b-Cooled inside  
c-burned inside                      d-removed from

46-All of the following are processes that can change the shape of Earth's surface, except.....

- a-weathering                      b-digestion                      c-erosion                      d-deposition

47-Extreme heat and pressure under the Earth's surface has an important role in forming.....

- a-wood                      b-fossil fuel                      c-wind                      d-biofuel

48-Water flows through turbines in dams to generate ..... energy.

- a-electrical                      b-potential                      c-solar                      d-light

49-When a rock blocks the path of flying sand, a ..... may be formed.

- a-dune                      b-river                      c-valley                      d-canyon

50-..... is the main source of energy on the Earth's surface.

- a-Oil                      b-gasoline                      c-The sun                      d-The moon

51-..... may cause chemical weathering or mechanical weathering.

- a-Oxygen                      b-Water                      c-Rocks                      d-Lichens



52-The wasted energy that produced from the electric lamp is .....  
energy.

a-potential      b-chemical      c-thermal      d-light

53-Rusting of iron forming rocks is an example of .....

a-mechanical weathering      b-weathering by wind

c-deposition in rivers      d-chemical weathering

54-The output energy in the Mars exploring vehicle is ..... energy.

a-electrical      b-light      c-kinetic      d-solar

55-The dropping of sediments in a new place is known as.....

a-erosion      b-freezing      c-weathering      d-deposition

56-From factors of mechanical weathering.....

a-oxygen      b-acid rains      c-temperature      d-acids of lichens

57-Lichens produce ..... on rocks that dissolve minerals found in these rocks.

a-oxygen      b-acids      c-water      d-rain

58-The energy source of a toy car is .....

a-engine      b-wires      c-battery      d-wheels

59-Rusting of iron forming rocks is an example of .....

a-mechanical weathering      b-weathering by wind

c-deposition in rivers      d-chemical weathering

60-The output energy when playing drums is the ..... energy.

a-chemical      b-light      c-sound      d-potential

61-Water flows through turbines in dams to generate ..... energy.

a-electrical      b-potential      c-light      d-solar

62-Canyon is a steep valley that is formed due to .....

a-mechanical weathering      b-erosion by water

c-deposition in rivers      d-chemical weathering

### **Put true or false:**

1-You need gasoline to move a bicycle. ( )

2-A solar panel consists of one small solar cell. ( )

3-Most of energy chains start with the moon. ( )

4-We cannot create a new form of energy, and also we cannot destroy an existed form of energy. ( )



- 5-Wind can pick up sand grains in forming sand dunes. ( )
- 6-Sand dunes are the landform that can be seen in both beach and sandy desert. ( )
- 7-Sand dunes are formed by erosion only. ( )
- 8-Sand travels for a short distance when wind blows with great force. ( )
- 9-Deposition process never change the shape of the land. ( )
- 10-There is a stored chemical energy inside the food we eat. ( )
- 11-Machines make our life easier. ( )
- 12-We have to conserve all forms of fuel. ( )
- 13-Both canyons and valleys often have river in their bottom. ( )
- 14-The walls of valleys are vertical and steep. ( )
- 15-Deltas are formed as a result of silt deposition. ( )
- 16-The Nile River pour its water in the Red Sea. ( )
- 17-Energy may be destroyed inside different devices. ( )
- 18-Grinding of biscuits by hands into fine powder has the same effect of mechanical weathering of rocks. ( )
- 19-The movement of a generator in electric power station produces potential energy. ( )
- 20-The amount of oil on Earth is limited. ( )
- 21-The Mars rover curiosity converts sound energy into kinetic energy. ( )
- 22-Mars rover curiosity can be operated from a distance. ( )
- 23-The stored energy in batteries is the light energy. ( )
- 24-the electric lamp is the primary source of most energies on the earth. ( )
- 25-The electric iron converts electrical energy into thermal energy. ( )
- 26-Energy that is produced from burning gasoline, cannot be used to move a car. ( )
- 27-Burning of all forms of fuel produces thermal energy. ( )
- 28-Coal can be used to produce electrical energy. ( )
- 29-The nonrenewable resources of energy include coal, gasoline and water. ( )
- 30-When fuel is burned, it produces thermal energy. ( )
- 31-Turbines convert kinetic energy into electrical energy. ( )
- 32-The electrical energy produced from electric power station can be used in houses, streets and factories. ( )
- 33-We have to reduce the usage of the sun as a source of energy. ( )



- 34-Both sandcastles and canyons are formed in few hours. ( )
- 35-There are some similarities between sandcastles and coastal rocks. ( )
- 36-Canyons have sloping at sides like that of coastal rocks. ( )
- 37-Water may cause mechanical and chemical weathering. ( )
- 38-Chemical weathering could occur due to the acid that is produced from lichens or present in some rains. ( )
- 39-Limestone caves are formed due to friction between sand and rocks. ( )
- 40-You can see reshaping of Earth's surface during its occurrence. ( )
- 41-If there is no erosion process, there is no deposition process in another place. ( )
- 42-After deposition of eroded materials it may wear down again by wind or water. ( )
- 43-Erosion and deposition are two linked processes. ( ).
- 44-There are many types of sediments like sand, rocks and soil. ( )
- 45-Roots of plants can slowly grow over time through small cracks in rocks causing chemical weathering. ( )
- 46-Water can cause the two types of weathering. ( )
- 47-Canyons are formed due to erosion by water for a short period of time. ( )
- 48-There is no trees or plants grow on the both sides of a canyon at the beginning of its formation. ( )
- 49-Dunes are special type of valleys which is formed due to wind erosion. ( )
- 50-Canyons are formed by weathering and erosion of rocks for a long period of time. ( )
- 51-Chemical energy is the energy that is stored in food and battery. ( )
- 52-Electricity can be generated from water. ( )
- 53-The watermill convert electrical energy into kinetic energy. ( )
- 54-The Earth's surface never changes overtime. ( )
- 55-Strong wind and hurricanes carry sand grains for a short distance. ( )
- 56-Sea waves may cause erosion of beaches. ( )
- 57-Green plants are one of the nonrenewable resources of energy. ( )
- 58-Sand dunes are created by erosion and weathering processes at the same time. ( )
- 59-The Nile River Delta was formed by weathering and erosion processes only. ( )



- 60-We have to conserve all forms of fuel. ( )
- 61-Gravity does not affect the small rocks that have been broken down from mountains. ( )
- 62-When a piece of coal is burned, thermal energy is produced. ( )
- 63-Most of energy chains start with the moon. ( )
- 64-Floods are one of the factors that causes water erosion. ( )
- 65-Most energy chains start with moon. ( )
- 66-Canyons can take millions of years to be formed. ( )
- 67-Charcoal is formed from decomposition of remains of ancient plants. ( )
- 68-Biofuels are from nonrenewable resources of energy. ( )
- 69-Using solar energy is a way to conserve fossil fuels. ( )
- 70-Water is a nonrenewable resource that is used to generate hydroelectricity. ( )
- 71-When iron in the rock rust, the rock becomes stronger. ( )
- 72-One of the wind turbines advantages is that it can generate electricity in any time even though the wind doesn't blow. ( )
- 73-Erosion is the process in which the small particles are moved to other places. ( )
- 74-Canyons are similar in their colors, texture and shapes. ( )
- 75-When water freezes, its volume decreases. ( )
- Write the scientific term of each of the following:**
- 1-A device used to convert electrical energy into light energy. (.....)
- 2-Natural resources of energy, that take a short period of time to be renewed. (.....)
- 3-A natural movement of air that is resulted from the difference in temperature between cold and hot air. (.....)
- 4-The energy produced from a battery. (.....)
- 5-A process in which water change into water vapor. (.....)
- 6-The liquid that stores chemical energy, and it is used to mover cars. (.....)
- 7-A fuel that is produced from remains of dead animals and plants under the Earth's surface. (.....)
- 8-It is a device that produces light from electricity. (.....)

- 9-A type of mirrors that is used to direct sunlight onto metal utensils to heat them and cook the food inside it. (.....)
- 10-It is a form of biofuel, that can be made from some types of plants such as grass and wood chips. (.....)
- 11-A turbine that converts the energy of flowing or falling water into electrical energy. (.....)
- 12-The energy produced from batteries. (.....)
- 13-Process in which rocks are broken down into smaller particles.  
(.....)
- 14-Process in which small broken rocks move from place to another by help of wind or water. (.....)
- 15-The matter that produces steam on heating, which is used to turn turbines in electric power station. (.....)
- 16-A mill that is turned by water flow. (.....)
- 17-Process in which the sediments are dropped in a new location by the action of wind, water, ice and gravity. (.....)
- 18-The energy used to play a drum. (.....)
- 19-The main source of energy on the Earth. (.....)
- 20-The form of energy that is stored in the battery of a remote controlling toy car. (.....)
- 21-The remote controlled vehicle used to explore the surface of planet Mars.  
(.....)
- 22-The input energy of television. (.....)
- 23-The wasted energy in a computer. (.....)
- 24-The output energy of the washing machine which helps it do its main function. (.....)
- 25-Energy can neither be created nor destroyed, but only converts from one form to another. (.....)
- 26-A kind of energy that is produced from the electric heater and burning coal.  
(.....)
- 27-The energy produced from playing guitar. (.....)
- 28-The main source of most forms of energy on the Earth's surface.  
(.....)



- 29-The energy stored inside the coal. (.....)
- 30-The energy resources that include wind energy, water and solar energy. (.....)
- 31-A building that is built across rivers to control the water flow and increase its potential energy. (.....)
- 32-A glass building that is used in cold areas to plant crops which grow in warm climate. (.....)
- 33-An energy that is produced from water turbines and is transmitted through wires to operate different devices in houses. (.....)
- 34-They are tiny pieces that break down and float away when rocks are weathered. (.....)
- 35-A gas in air combines with iron of some rocks and cause its weathering. (.....)
- 36-A process in which large rock is broken into small pieces. (.....)
- 37-It is the landform that has steep walls and formed by the effect of weathering and erosion due to wind, water or other factors. (.....)
- 38-They are lowland areas in between mountains and have gently sloped sides around a river. (.....)
- 39-The energy produced from a battery. (.....)
- 40-The substance produced from the remains of dead trees that buried deep in the Earth over millions of years. (.....)
- 41-the energy stored in coal. (.....)
- 42-The disappearance of a sandcastle as a result of its hitting with the sea waves. (.....)
- 43-They are deep valleys carved by flowing water. (.....)
- 44-It is a model that can be built on seashores using sand and may disappear easily by sea waves. (.....)
- 45-Process in which rocks are broken down into smaller particles. (.....)
- 46-It is a type of weathering through which acids of lichens dissolve minerals of rocks. (.....)
- 47-It is a type of caves that is formed when dissolved minerals of rocks combine again in new shapes. (.....)



48-The energy produced from playing guitar. (.....)

49-The kind of weathering that changes the structure and color of rocks.  
(.....)

50-Any substance that produces thermal energy. (.....)

51-The process by which sediments lay down after its erosion.  
(.....)

52-They are used in crushing grains. (.....)

53-A triangular landform formed from very fine bits of sand and clay that formed due to flow of river into the sea. (.....)

### **Give reasons for each of the following:**

1-We must turn off lights that we are not needed for a while.

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2-Iron inside rocks may rust.

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3-The used amount of fossil fuels cannot be replaced as quickly as it is consumed.

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5-Biofuel is considered as a renewable fuel.

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6-Some calculators use the sunlight to be operated.

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**7-When you press on the spring of soap dispenser, the soap moves upward.**

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**8-Coal is considered as a nonrenewable energy resources.**

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**9- A remote controlled toy car needs a battery to move from one place to another.**

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**10-Mars rover curiosity operates for a long periods of time on Mars without any need to be recharged.**

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**11-You feel heat when you put your hands near a lighted electric lamp.**

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**12-The presence of batteries inside a toy car.**

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**13-Thermal energy in a mobile phone is considered as a wasted energy.**

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**14-The electrical energy that enters the hair dryer does not come out of the hair dryer in the same form of energy.**

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**15-Sound energy and thermal energy are considered as a wasted energy in the blender.**

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**16-The fuel is very important for different means of transportation.**

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**17-Sometimes the fuel indicator of a car goes down.**

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**18-Water and wind are considered as renewable resources of energy.**

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**19-Coal and gasoline are considered as nonrenewable resources of energy.**

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**20-Smog of cars are very dangerous to human health.**

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**21-Farmers must decrease the use of pesticides.**

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**22-Sometimes sun is not visible in the sky but you can feel its warmth.**

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**23-Kinetic energy of wind affects the speed of wind turbine blades rotation.**

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**24-Water turbines are placed in waterfalls areas.**

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**25-Water play an important role in the formation of limestone caves.**

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**26-Trees and other plants are growing on both sides of small canyons.**

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**27-It might be useful to recognize signs of weathering, erosion and deposition.**

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**28-Wood is considered as a fuel.**

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**29-Fossil fuels can't be replaced soon after it is used.**

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**30-Delta is formed when river meets a sea.**

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**31-Large sand dunes are formed in desert.**

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**32-Increase burning of fossil fuels cause acid rain.**

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**33-Acid rain has a bad effect on buildings in cities.**

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**34-Global warming occurs due to the increase of burning coal and oil.**

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**35-Sometimes the wind turbines are useless.**

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**36-Hydroelectric dams are built on rivers.**

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**37-Formation of canyons is an example of slow change.**

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**38-The sides of canyon at the beginning of its formation are gently sloped.**

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**39-Canyon may be formed as a result of river streaming.**

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**40-Plants of wetland areas help in formation of deltas.**

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**41-Sand dune may be formed in front of a large rock in desert.**

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### **What happens to:**

**1-The change of energy when you turn on the television.**

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**2-The change of energy when you burn a piece of wood.**

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**3-The change of energy when you shake a small bell with your hand.**

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**4-The car fuel indicator if the amount of gasoline in a car decreases.**

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**5-The car movement if fuel runs out in a car.**

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**6-A generator that is connected to a damaged turbine in an electric power station.**

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**7-The movement of turbines if the water in an electric power station is not heated.**

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**8-A flat land, if a water stream flows over it.**

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**9-A house that is built close to a river, if the path of the river is changed toward this house.**

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**10-The amount of fossil fuels if people don't conserve their usage.**

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**11-To the Earth's temperature if we use renewable resources of energy instead of fossil fuels.**

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**12-The sand in the desert when wind blows by a great force.**

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**What happens if:**

**1-Batteries of remote controlled car run out.**

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**2-Solar calculators were exposed to the sunlight.**

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**3-You put your hand near the lightened lamp.**

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**4-You use a mobile phone for a long period of time.**

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**5-You turn on an electric fan.**

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**6-The remains of dead living organisms were buried under the Earth's surface over millions of years.**

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**7-Decomposition of remains of sea animals under the Earth's surface.**

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**8-Wind doesn't blow in an area that contains many modern wind turbines.**

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**9-Lichens growing on rocks produce acid.**

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**10-A red-colored rust is formed on some rocks.**

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**11-A river carries sediments meet a sea.**

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**12-A river erodes the sediments of a mountain over a long period of time.**

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**13-Wind that is carrying sand particles hits a big rock.**

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.....

**14-Shaking of a hand bell. (according to the change of energy)**

.....  
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.....



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**15-Turning on an electric lamp. (according to the change of energy)**

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**16-You turn on TV (according to the change of energy)**

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**17-A river carries sediments meet a sea.**

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**18-Acid rain falls on a rock.**

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**19-Oxygen of air reacts with iron of some rocks.**

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**20-You put your hand near a lighted lamp.**

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## **Variant Questions:**

**-Give an example of:**

**1-Renewable energy resources.** .....

**2-Fossil fuel.** .....

**-Mention two factors which determine the shape of a formed valley?**

**1-.....**

**2-.....**



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**-What is the factors causing mechanical weathering?**

1-.....

2-.....

**-What is the role of wind in mechanical weathering?**

.....  
.....  
.....

**-There are two types of sediments, mention two of them:**

1-.....

2-.....

**-Cross out the odd word**

1-Wood - coal - oil - natural gas

2-Solar water heater - Hand mixer - Solar panel - Green house

3-Gasoline - coal - Natural gas - wind

4-Weathering - Photosynthesis - Deposition - Erosion

**-Mention a device that converts electrical energy into both kinetic and sound energy.**

.....

**-Complete the following table:**

<b><u>Device</u></b>	<b><u>Input energy</u></b>	<b><u>Output energy</u></b>
Electric iron		
Hair dryer		
Washing machine		
Electric heater		
Hand bell		
Electric blender		
Electric lamp		



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# Final Revision –Second Term



## Complete the following:

- 1-Both watermill and windmill are used to grind grains to make flour hundreds of years ago, but now we use them to generate electricity.
- 2-In any energy chain, some of the energy is lost in the form of heat.
- 3-Wood and charcoal are examples of biofuel, while coal and oil are examples of fossil fuels.
- 4-When you ride a bicycle, the potential energy stored in your body is converted into kinetic energy which cause the bicycle to move.
- 5-When we expose our bodies to the sun we feel warm.
- 6-The energy can be transformed from one form to another.
- 7-Blowing of strong wind in the desert may form large sand dunes.
- 8-There are two types of weathering which are mechanical weathering and chemical weathering.
- 9-Dams control the flow of water, that causes the increase of the kinetic energy of water.
- 10-The origin of sand is the breaking down of some types of rocks.
- 11-The type of weathering in which the rocks are broken down due to the presence of plant root is known as mechanical weathering.
- 12-The change of electrical energy into sound energy in the radio is an example that proves the law of conservation of energy.
- 13-The natural resources that can be replaced shortly after being used are called renewable resources of energy.
- 14-The output energy of burning coal is thermal energy, which is used to produce electrical energy in electric power station in order to generate electrical energy.
- 15-The output energy that helps the washing machine to do its main function is kinetic energy, and this energy is considered the input energy of the hand bell.
- 16-The input energy of the toy car is chemical energy that is stored in its battery and then converted into electrical energy in its wires to operate its motor.



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17-The generator in electric power station changes kinetic energy into electrical energy.

18-Radiant energy is used to generate electricity directly by using solar cell or indirectly as it causes blowing of wind that is used to rotate wind turbines.

19-A wind turbine spins faster when the kinetic energy of wind increases.

20-The energies that are used in modern wind turbines and old windmills are considered as renewable energy resources.

21-Remote controlled of toy cars changes chemical energy stored in its batteries into electrical energy that is turn changes into kinetic energy which is used to move the car.

22-When you rub your hands together, the kinetic energy is converted into thermal energy.

23-Coal, natural gas and oil can be used in generating electricity.

24-Wind turbines and windmills use the energy of wind to be powered.

25-The chemical weathering makes greater changes than mechanical weathering.

26-Chemical and mechanical wreathing can be caused by water which on freezing turned into ice.

27-If the color of a statue changes and it is broken into small pieces, this means both types of weathering happened to it.

28-During weathering process, rocks are broken down or wore away.

29-Formation of limestone caves is an example of chemical weathering.

30-Both of valleys and canyons often have river or streams flow through their lowest point.

31-Deltas are formed when the speed of the river water decreases, which cause deposition of sediments.

32-When the sides of a valley become steep, this valley may be changed into a canyon.

33-The energy can be transformed from one form to another.

34-To operate an electric mixer we use electrical energy.

35-When your cell phone is out of charge, you must recharge its battery to operate again.



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36-Some calculators can change solar energy into electrical energy by using solar cell

37-On planet Mars, curiosity robot is operated by using solar energy from sunlight that is converted into electrical energy used to recharge its batteries.

38-The unusable energy that produced from the electric lamp is thermal

39- Wind is a renewable energy resource.

40-When rocks break down into small pieces, this indicates the occurrence of weathering.

41-Fossil fuel includes oil, natural gas and coal.

42-Global warming causes the raise of temperature on Earth and changes its climate.

43-When the kinetic energy of wind increases, the speed of rotation of turbine blades will increase.

44-The process in which rocks are broken down into smaller particles is called weathering.

45-In hand bell kinetic energy is converted into sound energy.

46-Fuel is used as a source of thermal energy.

47-The shape of coastal rocks is affected by the force of water and wind.

48-Coal and oil are considered as non-renewable resources of energy.

49-The force that pulls down broken rocks at mountain side is called gravity.

50-Wind turbines are used to generate electrical energy.

51-When the force of wind is decreased, the sand cannot travel for a long distance.

52-We need thermal energy for cooking food and warming houses.

53- Canyon is a deep valley carved by flowing water.

54-The Sun provides Earth with light and heat.

55-Energy produced from the radio which helps the device do its main function is sound energy.

### **Choose the correct answer:**

1-Toy cars need energy to do all the following functions, except .....

a-moving forward and backward

b-rotation in circle

c-moving right and left

**d-rotation around the moon.**



2-Sand is formed due to breaking down of .....

a-glass      b-wood      **c- rock**      d- plastic

3-Between forms of fuel that present in car fuel stations are .....

a-gasoline and wood      b-natural gas and coal  
c-wood and coal      **d-gasoline and natural gas**

4-All of the following are examples of renewable energy resources, except .....

**a-fossil fuel**      b-waterfalls      c-wind      d-sunlight

5-The input energy when using the hair dryer is the ..... energy.

**a-Electrical**      b-potential      c- kinetic      d-thermal.

6-Water flows through turbines in dams to generate ..... energy.

**a-electrical**      b-potential      c-solar      d-light

7-Fossil fuels need .....to be formed under the Earth's surface.

a-five years      b-ten years

c-hundreds of years      **d-millions of years**

8-The steps of forming fossil fuel, don't include ..... of the remains of the living organisms.

a-decaying      **b-cooling**      c-burying      d-heating

9-All the following are processes that can change the Earth's surface, except .....

**a-digestion**      b-erosion      c-weathering      d-deposition

10-Electric wires are made of .....

**a-copper**      b-carbon      c-wood      d-glass

11-All the following are forms of fuel, except .....

a-wood      b-natural gas      c-gasoline      **d-glass**

12-The sun provides us with .....and .....

a-sound – heat      b-light – electricity

c-sound – light      **d-heat – light**

13-All the following are renewable energy resources, except .....

a-waterfalls      **b- coals**      c- the Sun      d- wind

14-Hydroelectric energy is generated from .....

a-waterfalls only      **b-waterfalls and dams**

c-biofuel only      c- biofuel and fossil fuel



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15-Both hair dryer and electrical water kettle produce ..... Energy

a-chemical      **b-thermal**      c-light      d-potential

16-Some electrical devices need ..... energy to be recharged

**a-electrical**      b- thermal      c-potential      d-sound

17-When you use the hand bell, the ..... energy changes into sound energy.

a-light      b-thermal      **c-kinetic**      d-electrical

18-Using convergent ..... sheets in cooking food is one of the benefits of using the solar energy.

a-paper      b-plastic      **c-mirror**      d-wooden

19-River water evaporates by the help of heat produced from .....

a-kettles      **b-the Sun**      c-electric heaters      d-electric iron

20-Extreme heat and pressure under the Earth's surface has an important role in forming .....

a-wood      b-wind      **c-fossil fuel**      d-biofuel

21-When a river meets a sea or an ocean, a landform known as ..... is formed.

a-canyon      b-volcano      c-mountain      **d-delta**

22-Oil is a non-renewable energy resource that is used inside a .....

a-flash light      **b-car engine**

c-electric fan      d-washing machine

23-It takes several ..... for a spacecraft to travel from Earth to Mars.

a-seconds      b-minutes      c-days      **d-months.**

24-You feel warm when you rub your hands together, because ..... energy

**a-thermal**      b-light      c-electrical      c-sound

25-Sound and ..... energies are from output energies when operating the mobile phone.

a-electrical      b-potential      c-chemical      **d-light**

26-We can use the energy obtained from burning of wood directly in all of the following situations, except .....

a-warming houses      **b-operating television**

c-cooking food      d-boiling water



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27-When land and water areas on Earth absorb the solar energy, the ..... increases

a-temperature on Earth      b-speed of rotation on Earth

c-speed of rotation on moon      d-Speed of rotation of Sun.

28-Some kinetic energy is converted into ..... energy due to friction of bike's tire with the road.

a-light      b-electrical      c-potential      d-thermal

29-Using water to generate electricity depends on places.....

a-with strong winds      b-where dams are built on rivers

c-with weak wind      d-where boats sail in rivers

30-Inside the electric power station, heating of..... produce steam.

a- turbines      b-generators      c-water      d-fuel

31-While playing guitar, the ..... energy changes into sound energy.

a-kinetic      b-light      c-chemical      d-potential

32-The output energy when playing drums is the ..... energy.

a-chemical      b-light      c- sound      d-potential

33-If the rain falls over a canyon for several times per year, .....

a-it depth increases      b-its depth decreases

c-it becomes flat      d-it is not affected

34-When the wind turbine blades rotate, this causes wind turbines to rotate and generating ..... energy

a-electrical      b-solar      c-chemical      d-potential

35-All the following are forms of fossil fuel, except.....

a-water      b-coal      c-natural gas      d-oil

36-Which of the following is a renewable energy resources?

a-running bicycle      b-running car

c-running water      d-running person

37-Curiosity rover is designed to explore .....

a-Earth planet      b-Mars planet      c-the sun      d-the moon

38-The change of energy in an ..... is opposite to the change of energy in a wind turbine.

a-electrical bell      b-electric heater

c-electric iron      d- electric fan



39-All the following factors play an important role in the formation of fossil fuel, except.....

- a-extreme pressure                      b-extreme heat  
c-the moon light                      d-rocks and sediment.

40-To move a car, the fuel must be ..... The car engine at first.

- a-freeze inside                      b-Cooled inside  
c-burned inside                      d-removed from

41-By rubbing hands ..... energy is changed into thermal energy.

- a-chemical                      b-kinetic                      c-sound                      d-potential

42-..... is a type of biofuel which is made of wood.

- a-Coal                      b-Oil                      c-Charcoal                      d-Natural gas

43-..... causes mechanical weathering.

- a-Oxygen                      b-Acid rain  
c-Lichens                      d-Wind

44-When rock blocks the path of flying sand, a ..... may be formed.

- a-dune                      b-river                      c-valley                      d-canyon

45-To move a car, the fuel must be ..... The car engine at first.

- a-freeze inside                      b-Cooled inside  
c-burned inside                      d-removed from

46-All of the following are processes that can change the shape of Earth's surface, except.....

- a-weathering                      b-digestion                      c-erosion                      d-deposition

47-Extreme heat and pressure under the Earth's surface has an important role in forming.....

- a-wood                      b-fossil fuel                      c-wind                      d-biofuel

48-Water flows through turbines in dams to generate ..... energy.

- a-electrical                      b-potential                      c-solar                      d-light

49-When a rock blocks the path of flying sand, a ..... may be formed.

- a-dune                      b-river                      c-valley                      d-canyon

50-..... is the main source of energy on the Earth's surface.

- a-Oil                      b-gasoline                      c-The sun                      d-The moon

51-..... may cause chemical weathering or mechanical weathering.

- a-Oxygen                      b-Water                      c-Rocks                      d-Lichens



52-The wasted energy that produced from the electric lamp is .....  
energy.

a-potential      b-chemical      **c-thermal**      d-light

53-Rusting of iron forming rocks is an example of .....

a-mechanical weathering      b-weathering by wind  
c-deposition in rivers      **d-chemical weathering**

54-The output energy in the Mars exploring vehicle is ..... energy.

a-electrical      b-light      **c-kinetic**      d-solar

55-The dropping of sediments in a new place is known as.....

a-erosion      b-freezing      c-weathering      **d-deposition**

56-From factors of mechanical weathering.....

a-oxygen      b-acid rains      **c-temperature**      d-acids of lichens

57-Lichens produce ..... on rocks that dissolve minerals found in these rocks.

a-oxygen      **b-acids**      c-water      d-rain

58-The energy source of a toy car is .....

a-engine      b-wires      **c-battery**      d-wheels

59-Rusting of iron forming rocks is an example of .....

a-mechanical weathering      b-weathering by wind  
c-deposition in rivers      **d-chemical weathering**

60-The output energy when playing drums is the ..... energy.

a-chemical      b-light      **c-sound**      d-potential

61-Water flows through turbines in dams to generate ..... energy.

**a-electrical**      b-potential      c-light      d-solar

62-Canyon is a steep valley that is formed due to .....

a-mechanical weathering      **b-erosion by water**  
c-deposition in rivers      d-chemical weathering

### **Put true or false:**

1-You need gasoline to move a bicycle. ( **X** )

2-A solar panel consists of one small solar cell. ( **X** )

3-Most of energy chains start with the moon. ( **X** )

4-We cannot create a new form of energy, and also we cannot destroy an existed form of energy. ( **✓** )



- 5-Wind can pick up sand grains in forming sand dunes. ( ✓ )
- 6-Sand dunes are the landform that can be seen in both beach and sandy desert. ( ✓ )
- 7-Sand dunes are formed by erosion only. ( X )
- 8-Sand travels for a short distance when wind blows with great force. ( X )
- 9-Deposition process never change the shape of the land. ( X )
- 10-There is a stored chemical energy inside the food we eat. ( ✓ )
- 11-Machines make our life easier. ( ✓ )
- 12-We have to conserve all forms of fuel. ( ✓ )
- 13-Both canyons and valleys often have river in their bottom. ( ✓ )
- 14-The walls of valleys are vertical and steep. ( X )
- 15-Deltas are formed as a result of silt deposition. ( ✓ )
- 16-The Nile River pour its water in the Red Sea. ( X )
- 17-Energy may be destroyed inside different devices. ( X )
- 18-Grinding of biscuits by hands into fine powder has the same effect of mechanical weathering of rocks. ( ✓ )
- 19-The movement of a generator in electric power station produces potential energy. ( X )
- 20-The amount of oil on Earth is limited. ( ✓ )
- 21-The Mars rover curiosity converts sound energy into kinetic energy. ( X )
- 22-Mars rover curiosity can be operated from a distance. ( ✓ )
- 23-The stored energy in batteries is the light energy. ( X )
- 24-the electric lamp is the primary source of most energies on the earth. ( X )
- 25-The electric iron converts electrical energy into thermal energy. ( ✓ )
- 26-Energy that is produced from burning gasoline, cannot be used to move a car. ( X )
- 27-Burning of all forms of fuel produces thermal energy. ( ✓ )
- 28-Coal can be used to produce electrical energy. ( ✓ )
- 29-The nonrenewable resources of energy include coal, gasoline and water( X )
- 30-When fuel is burned, it produces thermal energy. ( ✓ )
- 31-Turbines convert kinetic energy into electrical energy. ( ✓ )
- 32-The electrical energy produced from electric power station can be used in houses, streets and factories. ( ✓ )
- 33-We have to reduce the usage of the sun as a source of energy. ( X )



- 34-Both sandcastles and canyons are formed in few hours. ( X )
- 35-There are some similarities between sandcastles and coastal rocks. ( ✓ )
- 36-Canyons have sloping at sides like that of coastal rocks. ( ✓ )
- 37-Water may cause mechanical and chemical weathering. ( ✓ )
- 38-Chemical weathering could occur due to the acid that is produced from lichens or present in some rains. ( ✓ )
- 39-Limestone caves are formed due to friction between sand and rocks. ( X )
- 40-You can see reshaping of Earth's surface during its occurrence. ( X )
- 41-If there is no erosion process, there is no deposition process in another place. ( ✓ )
- 42-After deposition of eroded materials it may wear down again by wind or water. ( ✓ )
- 43-Erosion and deposition are two linked processes ( ✓ )
- 44-There are many types of sediments like sand, rocks and soil. ( ✓ )
- 45-Roots of plants can slowly grow over time through small cracks in rocks causing chemical weathering. ( X )
- 46-Water can cause the two types of weathering. ( ✓ )
- 47-Canyons are formed due to erosion by water for a short period of time. ( X )
- 48-There is no trees or plants grow on the both sides of a canyon at the beginning of its formation. ( X )
- 49-Dunes are special type of valleys which is formed due to wind erosion. ( X )
- 50-Canyons are formed by weathering and erosion of rocks for a long period of time. ( ✓ )
- 51-Chemical energy is the energy that is stored in food and battery. ( )
- 52-Electricity can be generated from water. ( ✓ )
- 53-The watermill convert electrical energy into kinetic energy. ( X )
- 54-The Earth's surface never changes overtime. ( X )
- 55-Strong wind and hurricanes carry sand grains for a short distance. ( X )
- 56-Sea waves may cause erosion of beaches. ( ✓ )
- 57-Green plants are one of the nonrenewable resources of energy. ( X )
- 58-Sand dunes are created by erosion and weathering processes at the same time. ( X )
- 59-The Nile River Delta was formed by weathering and erosion processes only. ( X )

- 60-We have to conserve all forms of fuel. ( ✓ )
- 61-Gravity does not affect the small rocks that have been broken down from mountains. ( X )
- 62-When a piece of coal is burned, thermal energy is produced. ( ✓ )
- 63-Most of energy chains start with the moon. ( X )
- 64-Floods are one of the factors that causes water erosion. ( ✓ )
- 65-Most energy chains start with moon. ( X )
- 66-Canyons can take millions of years to be formed. ( ✓ )
- 67-Charcoal is formed from decomposition of remains of ancient plants. ( X )
- 68-Biofuels are from nonrenewable resources of energy. ( X )
- 69-Using solar energy is a way to conserve fossil fuels. ( ✓ )
- 70-Water is a nonrenewable resource that is used to generate hydroelectricity. ( X )
- 71-When iron in the rock rust, the rock becomes stronger. ( X )
- 72-One of the wind turbines advantages is that it can generate electricity in any time even though the wind doesn't blow. ( X )
- 73-Erosion is the process in which the small particles are moved to other places. ( ✓ )
- 74-Canyons are similar in their colors, texture and shapes. ( X )
- 75-When water freezes, its volume decreases. ( X )
- Write the scientific term of each of the following:**
- 1-A device used to convert electrical energy into light energy. ([electric lamp](#))
  - 2-Natural resources of energy, that take a short period of time to be renewed. ([renewable natural resources](#))
  - 3-A natural movement of air that is resulted from the difference in temperature between cold and hot air. ([wind](#))
  - 4-The energy produced from a battery. ([electrical energy](#))
  - 5-A process in which water change into water vapor. ([evaporation](#))
  - 6-The liquid that stores chemical energy, and it is used to mover cars. ([gasoline](#))
  - 7-A fuel that is produced from remains of dead animals and plants under the Earth's surface. ([oil](#))
  - 8-It is a device that produces light from electricity. ([electric lamp](#))

- 9-A type of mirrors that is used to direct sunlight onto metal utensils to heat them and cook the food inside it. ([convergent mirrors](#))
- 10-It is a form of biofuel, that can be made from some types of plants such as grass and wood chips. ([biofuel](#))
- 11-A turbine that converts the energy of flowing or falling water into electrical energy. ([water turbine](#))
- 12-The energy produced from batteries. ([electrical energy](#))
- 13-Process in which rocks are broken down into smaller particles. ([weathering](#))
- 14-Process in which small broken rocks move from place to another by help of wind or water. ([erosion](#))
- 15-The matter that produces steam on heating, which is used to turn turbines in electric power station. ([water](#))
- 16-A mill that is turned by water flow. ([watermill](#))
- 17-Process in which the sediments are dropped in a new location by the action of wind, water, ice and gravity. ([deposition](#))
- 18-The energy used to play a drum. ([kinetic energy](#))
- 19-The main source of energy on the Earth. ([The sun](#))
- 20-The form of energy that is stored in the battery of a remote controlling toy car. ([chemical](#))
- 21-The remote controlled vehicle used to explore the surface of planet Mars. ([Mars curiosity rover](#))
- 22-The input energy of television. ([Electrical energy](#))
- 23-The wasted energy in a computer. ([thermal energy](#))
- 24-The output energy of the washing machine which helps it do its main function. ([kinetic energy](#))
- 25-Energy can neither be created nor destroyed, but only converts from one form to another. ([Law of conservation of energy](#))
- 26-A kind of energy that is produced from the electric heater and burning coal. ([thermal energy](#))
- 27-The energy produced from playing guitar. ([sound energy](#))
- 28-The main source of most forms of energy on the Earth's surface. ([The sun](#))
- 29-The energy stored inside the coal. ([chemical energy](#))
- 30-The energy resources that include wind energy, water and solar energy. ([Renewable energy resources](#))



31-A building that is built across rivers to control the water flow and increase its potential energy. ([dam](#))

32-A glass building that is used in cold areas to plant crops which grow in warm climate. ([greenhouse](#))

33-An energy that is produced from water turbines and is transmitted through wires to operate different devices in houses. ([electrical energy](#))

34-They are tiny pieces that break down and float away when rocks are weathered. ([sediments](#))

35-A gas in air combines with iron of some rocks and cause its weathering. ([oxygen](#))

36-A process in which large rock is broken into small pieces. ([weathering](#))

37-It is the landform that has steep walls and formed by the effect of weathering and erosion due to wind, water or other factors. ([canyon](#))

38-They are lowland areas in between mountains and have gently sloped sides around a river. ([valley](#))

39-The energy produced from a battery. ([electrical energy](#))

40-The substance produced from the remains of dead trees that buried deep in the Earth over millions of years. ([coal](#))

41-the energy stored in coal. ([chemical energy](#))

42-The disappearance of a sandcastle as a result of its hitting with the sea waves. ([fast change or weathering of sand castle](#))

43-They are deep valleys carved by flowing water. ([canyon](#))

44-It is a model that can be built on seashores using sand and may disappear easily by sea waves. ([sandcastle](#))

45-Process in which rocks are broken down into smaller particles.  
([Weathering](#))

46-It is a type of weathering through which acids of lichens dissolve minerals of rocks. ([chemical weathering](#))

47-It is a type of caves that is formed when dissolved minerals of rocks combine again in new shapes. ([limestone caves](#))

48-The energy produced from playing guitar. ([sound energy](#))

49-The kind of weathering that changes the structure and color of rocks.  
([chemical weathering](#))



- 50-Any substance that produces thermal energy. ([fuel](#))
- 51-The process by which sediments lay down after its erosion. ([deposition](#))
- 52-They are used in crushing grains. ([watermill or windmill](#))
- 53-A triangular landform formed from very fine bits of sand and clay that formed due to flow of river into the sea. ([delta](#))

### **Give reasons for each of the following:**

1-We must turn off lights that we are not needed for a while.

**To conserve the electricity.**

2-Iron inside rocks may rust.

**Due to the reaction between iron and oxygen of air.**

3-The used amount of fossil fuels cannot be replaced as quickly as it is consumed.

**Because fossil fuel is formed over millions of years.**

5-Biofuel is considered as a renewable fuel.

**Because it can be replaced shortly after it is used.**

6-Some calculators use the sunlight to be operated.

**Because solar panels absorb solar energy and convert it into electrical energy which calculators use to be operated.**

7-When you press on the spring of soap dispenser, the soap moves upward.

**Because the potential energy stored in the spring changes into kinetic energy that moves the soap upward.**

8-Coal is considered as a nonrenewable energy resources.

**Because it is used at a rate faster than it can be renewed.**

9- A remote controlled toy car needs a battery to move from one place to another.

**Because chemical energy stored in battery is converted into electrical energy that changes into kinetic energy that makes the car moves.**

10-Mars rover curiosity operates for a long periods of time on Mars without any need to be recharged.

**Due to the presence of solar panels that use sunlight to recharge its batteries.**

11-You feel heat when you put your hands near a lighted electric lamp.

**Because some of the electrical energy is converted into thermal energy.**



**12-The presence of batteries inside a toy car.**

**Because battery is the source of energy where the chemical energy is converted into electrical energy to operate the toy car.**

**13-Thermal energy in a mobile phone is considered as a wasted energy.**

**Because it does not help the mobile phone to do its main function.**

**14-The electrical energy that enters the hair dryer does not come out of the hair dryer in the same form of energy.**

**Because it is converted into kinetic, thermal and sound energies.**

**15-Sound energy and thermal energy are considered as a wasted energy in the blender.**

**Because they don't help the blender to do its main function.**

**16-The fuel is very important for different means of transportation.**

**Because fuel is burned inside the engines to produce thermal energy that is changed into kinetic energy which causes the different means of transportation to move.**

**17-Sometimes the fuel indicator of a car goes down.**

**Because the fuel in the car tank runs out.**

**18-Water and wind are considered as renewable resources of energy.**

**Because they can be replaced shortly after being used.**

**19-Coal and gasoline are considered as nonrenewable resources of energy.**

**Because they are used at a rate faster than they can be used.**

**20-Smog of cars are very dangerous to human health.**

**Because the smog of cars causes irritation of human's eyes and lungs.**

**21-Farmers must decrease the use of pesticides.**

**Because pesticides cause the pollution of soil and water.**

**22-Sometimes sun is not visible in the sky but you can feel its warmth.**

**Because the atmosphere, land and water of Earth absorb the thermal energy of sun which causes increasing in the Earth's temperature.**

**23-Kinetic energy of wind affects the speed of wind turbine blades rotation.**

**Because by increasing kinetic energy of the wind, the blades rotate faster and wind turbines generates more electricity.**

**24-Water turbines are placed in waterfalls areas.**

**Because water turbines convert kinetic energy of flowing water into electrical energy**



**25-Water play an important role in the formation of limestone caves.**

**Because water dissolves minerals in rocks, then these dissolved minerals combine again forming new shapes.**

**26-Trees and other plants are growing on both sides of small canyons.**

**Due to flow of water stream which is needed by plants to grow.**

**27-It might be useful to recognize signs of weathering, erosion and deposition.**

**Because it may help in building houses in safe places.**

**28-Wood is considered as a fuel.**

**Because wood produces thermal energy when it is burned.**

**29-Fossil fuels can't be replaced soon after it is used.**

**Because fossil fuels are formed over millions of years.**

**30-Delta is formed when river meets a sea.**

**Because the sediments are deposited at the end of the river.**

**31-Large sand dunes are formed in desert.**

**Because they are formed by the effect of strong wind.**

**32-Increase burning of fossil fuels cause acid rain.**

**Because burning of fossil fuel produces carbon dioxide gas which combines with water in air forming acid rain.**

**33-Acid rain has a bad effect on buildings in cities.**

**Because acid rain causes dissolving of some rocks including the rocks used for building.**

**34-Global warming occurs due to the increase of burning coal and oil.**

**Because burning coal and oil produces carbon dioxide gas which forms a layer in atmosphere that traps heat on Earth causing rise in Earth's temperature that causes global warming.**

**35-Sometimes the wind turbines are useless.**

**Because sometimes the wind doesn't blow, so their blades don't move, so wind turbine don't generate electricity.**

**36-Hydroelectric dams are built on rivers.**

**To control the water flow and increase the potential energy of water to generate electricity.**

**37-Formation of canyons is an example of slow change.**

**Because they are formed due to the slow changes that happened to their rocks over many years.**



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**38-The sides of canyon at the beginning of its formation are gently sloped.**

**Due to the help of water in eroding the sides down.**

**39-Canyon may be formed as a result of river streaming.**

**Because the fast flow of water can erode a lot of sediment and carry them away, that lead to a formation of canyon.**

**40-Plants of wetland areas help in formation of deltas.**

**Because they help in increasing the rate of deposition process.**

**41-Sand dune may be formed in front of a large rock in desert.**

**Because the large rock can block the path of sand which is carried by wind.**

## **What happens to:**

**1-The change of energy when you turn on the television.**

**Electric energy changed into light and sound energies.**

**2-The change of energy when you burn a piece of wood.**

**Chemical energy stored in wood changes into thermal energy.**

**3-The change of energy when you shake a small bell with your hand.**

**Kinetic energy is changed into sound energy.**

**4-The car fuel indicator if the amount of gasoline in a car decreases.**

**The car fuel indicator will go down.**

**5-The car movement if fuel runs out in a car.**

**The car movement decreases gradually until it stops.**

**6-A generator that is connected to a damaged turbine in an electric power station.**

**Turbines cannot produce kinetic energy, so the generator will not turn and don't generate electricity.**

**7-The movement of turbines if the water in an electric power station is not heated.**

**Water will not produce steam, so the turbine will not move and will not produce kinetic energy.**

**8-A flat land, if a water stream flows over it.**

**A small canyon may be formed.**

**9-A house that is built close to a river, if the path of the river is changed toward this house.**

**It causes weathering and erosion of the house.**



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**10-The amount of fossil fuels if people don't conserve their usage.**

**Fossil fuels will run out on the Earth.**

**11-To the Earth's temperature if we use renewable resources of energy instead of fossil fuels.**

**The Earth's temperature will not increase.**

**12-The sand in the desert when wind blows by a great force.**

**The sand travel for a long distance.**

### **What happens if:**

**1-Batteries of remote controlled car run out.**

**The car will not move, so we can recharge its batteries by connecting toy car to a nearby charger or replacing old batteries with new ones.**

**2-Solar calculators were exposed to the sunlight.**

**Solar energy is converted into electrical energy that operate them.**

**3-You put your hand near the lightened lamp.**

**You will feel warm, because some electrical energy is converted into thermal energy.**

**4-You use a mobile phone for a long period of time.**

**Some energy is wasted as thermal energy.**

**5-You turn on an electric fan.**

**The electrical energy is converted into kinetic energy which do the main function of fan and sound energy as wasted energy.**

**6-The remains of dead living organisms were buried under the Earth's surface over millions of years.**

**They are converted into fossil fuels.**

**7-Decomposition of remains of sea animals under the Earth's surface.**

**They will form oil and natural gas.**

**8-Wind doesn't blow in an area that contains many modern wind turbines.**

**The blades of wind turbines don't move and also don't generate electricity.**

**9-Lichens growing on rocks produce acid.**

**The minerals of these rocks dissolve causing their breaking down.**

**10-A red-colored rust is formed on some rocks.**

**These rocks become weak and can be break down easily.**



11-A river carries sediments meet a sea.

**A delta may be formed.**

12-A river erodes the sediments of a mountain over a long period of time.

**Canyon may be formed.**

13-Wind that is carrying sand particles hits a big rock.

**Sand dunes may be formed.**

14-Shaking of a hand bell. (according to the change of energy)

**The kinetic energy changes into sound energy.**

15-Turning an electric lamp. (according to the change of energy)

**The electrical energy changes into light and thermal energies.**

16-You turn on TV (according to the change of energy)

**The electrical energy changes into light and sound energies.**

17-A river carries sediments meet a sea.

**A delta may be formed.**

18-Acid rain falls on a rock.

**Minerals of rocks are dissolved causing their breaking down.**

19-Oxygen of air reacts with iron of some rocks.

**It forms red-colored rust and rocks become weak and break down easily.**

20-You put your hand near a lighted lamp.

**You feel warm, because some electrical energy is converted into thermal energy.**

## Variant Questions:

**-Give an example of:**

**1-Renewable energy resources.**

**Wind, water and the sun**

**2-Fossil fuel.**

**Coal, oil and natural gas.**

**-Mention two factors which determine the shape of a formed valley?**

**1-Mechanical weathering:** Water runs over rocks and dissolves some substances in rocks then rocks are broken down.

**2-Chemical weathering:** When water dissolves minerals in a rock, the dissolved minerals combine again forming new shapes as in limestone caves.



**-What is the factors causing mechanical weathering?**

Water, wind, plant roots, and temperature.

**-What is the role of wind in mechanical weathering?**

Wind pushes the sand from a place to another, then friction occurs between sand and rocks causing their breaking down.

**-There are many types of sediments, mention two of them:**

Sand and soil.

**Cross out the odd word**

1-Wood - coal - oil - natural gas

2-Solar water heater - Hand mixer - Solar panel - Green house

3-Gasoline - coal - Natural gas - wind

4-Weathering - Photosynthesis - Deposition - Erosion

**Mention a device that converts electrical energy into both kinetic and sound energy.**

Electrical Blender

**Complete the following table:**

<b><u>Device</u></b>	<b><u>Input energy</u></b>	<b><u>Output energy</u></b>
Electric iron	Electrical energy	Thermal energy
Hair dryer	Electrical energy	Kinetic, thermal and sound energies
Washing machine	Electrical energy	Kinetic, thermal, and sound energies.
Electric heater	Electrical energy	Thermal energy
Hand bell	Kinetic energy	Sound energy
Electric blender	Electrical energy	Kinetic, thermal and sound energies
Electric lamp	Electrical energy	Light and thermal energies.



## Give reason to the following

- 1- A remote-controlled toy car needs a battery to move from one place to another.

Because the chemical energy stored in battery is converted into electrical energy that changes into kinetic energy and move the car

- 2- Some calculators use sunlight to operate.

Because the solar energy is converted into electrical energy which is used to operate calculators

- 3- Mars rover curiosity operates for a long period of time on Mars without any need to be charged.

Due to the presence of solar panels that use sunlight to recharge its batteries.

- 4- There is energy change when you press the spring of a soap dispenser.

Because the potential energy stored in the spring is changed into kinetic energy that move the soap upward

- 5- When you rub your hands together, you feel warm.

Because the kinetic energy is converted into thermal energy

- 6- Not all the energy that enters the energy chain completely reaches the device.

Because some of the energy is wasted in the form of heat



**7- You feel heat when you put your hands near a lighted electric lamp.**

Because some of the electrical energy is converted into thermal energy

**8- The presence of batteries inside a toy car**

Because batteries are the source of energy where chemical energy is converted to electrical energy that is converted to kinetic energy to move the car

**9- Thermal energy in a mobile phone is considered a waste of energy.**

Because it does not help the mobile phone to do its function

**10- The electrical energy that enters the hair dryer does not come out of the hair dryer in the same form of energy.**

Because it is converted into kinetic, thermal, and sound energies.

**11- Sound energy and thermal energy are considered as wasted energy in the blender.**

Because they do not help the blender to do its main function

**12- Fuel is very important for different means of transportation.**

Because it is burned inside the engines to produce thermal energy that is changed to kinetic energy which allow different means of transportation to move

**13- Sometimes the fuel indicator of a car goes down.**

Because the fuel in the car tank runs out

**14- Gasoline is burned inside a car engine.**

To produce thermal energy which changes into kinetic energy that causes the car to move.

**15- Water and wind are considered as renewable resources of energy.**

Because they can be replaced after a short period of time

**16- Coal and gasoline are considered as nonrenewable resources of energy.**

Because they are used faster than they can be renewed

**17- Using wood of trees as a fuel has negative effects on the environment**

Because continuous cutting of trees leads to deforestation

**18- We must turn off lights that we do not need.**

To conserve electricity

**19- Generators are important in electric power stations.**

Because generators convert kinetic energy into electrical energy

**20- Smog of cars is very dangerous to human health.**

Because smog cause irritation of human's eyes and lungs



**21- Farmers must decrease the use of pesticides.**

Because pesticides cause soil and water pollution

**22- Increases the burning of fossil fuel causes acid rain**

Because burning of fossil fuel produces carbon dioxide gas which combines with water in air forming acid rain

**23- Global warming occurs due to the increase of burning coal and oil**

Because burning coal and oil produces carbon dioxide gas that forms a layer in atmosphere that traps heat on Earth causing rise in Earth's temperature

**24- Acid rain has a bad effect on buildings in cities**

Because it dissolves the building rocks

**25- Fossil fuels cannot be replaced as quickly as they are used.**

Because they are formed in millions of years

**26- To keep the air clean, we must replace fossil fuels with renewable resources of energy.**

Because when burning fossil fuels, they produce smog that pollutes the air.

**27- Humans used windmills and watermills hundreds of years ago.**

Because they were used to crush grains to make flour

**28- Sometimes the sun is not visible in the sky, but you can feel its warmth.**

Because the atmosphere, land and water absorb the energy of the sun causing an increase in the temperature.

**29- Kinetic energy of wind affects the speed of wind turbine blades rotation.**

Because when kinetic energy of wind increases, blades rotate faster, and wind turbine generates more electricity

**30- Hydroelectric dams are built on rivers.**

To control the water flow and increase the potential energy of the water to generate electricity.

**31- Water turbines are placed in waterfalls or dam's areas.**

Because the flow of falling water helps water turbines to rotate and generate electricity

**32- Some electrical devices have solar panels which are composed of many solar cells**

To absorb solar energy and convert it into electrical energy

**33- Sometimes the wind turbines are useless**

Because when the wind does not blow, they cannot work or generate electricity

**34- Iron in rocks may rust.**

Because of the reaction between iron and oxygen

**35- Water plays an important role in the formation of limestone caves.**

Because water dissolves minerals in rocks then the dissolved minerals combine again forming new shapes

**36- Trees and other plants are growing on both sides of small canyons**

Due to the flow of water stream which is needed by plants to grow

**37- A sand dune may be formed in front a large rock in desert**

Because the large rock can block the wind forming sand dunes

**38- Formation of canyons is considered as an example of slow changes**

Because they are formed due to the slow changes that happened to their rocks over many years

**39- Formation of delta when a river meets a sea**

Because the sediments are deposited at the end of the river

**40- Formation of sand dunes on beach**

Because they are formed by the effect of weak winds

**41- Formation of large sand dunes at western desert**

Because they are formed by the effect of strong winds

**42- It might be useful to recognize signs of weathering, erosion and deposition**

Because it may help in building houses in safe places



**43- The sides of canyon at the beginning of its formation are gently sloped**

Due to the help of water in eroding the sides

**44- Valleys have different shapes**

Because the shape depends on the type of rocks and the speed, age and size of river that forms the valley

**45- Canyon may be formed as a result of river streaming**

Because the fast flow of water can erode a lot of sediment and carry them a way forming canyons

**46- Plants of wetland areas help in formation of deltas**

Because they help in increasing the rate of deposition process

## What happens if?

**1- Batteries of remote-controlled toy car ran out.**

The car will not move, and we should replace the batteries or recharge them.

**2- Solar calculators were exposed to the sunlight.**

Solar energy is converted into electrical energy that operates the calculator.

**3- Mars rover curiosity did not get any sunlight on Mars surface.**

It cannot be operated because it depends on solar energy to charge its batteries.

**4- The change of energy when you turn on the television.**

The electrical energy is converted to sound and light energies



**5- The change of energy when you burn a piece of wood.**

The chemical energy is changed into thermal and light energies.

**6- The change of energy when you shake a small bell with your hand.**

The kinetic energy is changed to sound energy.

**7- You put your hands near a lighted lamp.**

You will feel warm because some of the electrical energy is changed into thermal energy.

**8- You use a mobile phone for a long time.**

Some of the energy is wasted in the form of thermal energy.

**9- You turn on an electric fan.**

Electrical energy is converted into kinetic, sound, and thermal energies.

**10- The car fuel indicator if the amount of gasoline in a car decrease**

The fuel indicator will go down.

**11- The car movement if fuel runs out in a car.**

The car movement will decrease until stops.

**12- People increase using the wood of trees as a source of fuel.**

It leads to deforestation that causes negative effects on the environment.

**13- The remains of dead living organisms were buried under the Earth over millions of years.**

They are converted into fossil fuels.



**14- Decomposition of remains of sea animals under the Earth's surface**

They will form oil and natural gas.

**15- A generator that is connected to a damaged turbine in an electric power station.**

Turbine cannot produce kinetic energy so the generator will not turn and don't generate electricity.

**16- The movement of turbine if the water in an electric power station is not heated**

Water will not produce steam so the turbine will not move or produce kinetic energy.

**17- Pesticides mix with water of canals and rivers.**

It will pollute soil and water.

**18- Factories decrease their use of chemicals.**

Air, water and soil pollution will decrease.

**19- The amount of fossil fuels if people don't conserve their usage.**

Fossil fuel will run out.

**20- Acid rain fall on buildings for a long period of time**

It causes dissolving of the rocks used for building

**21- People decrease burning of fossil fuel**

the amount of carbon dioxide gas in air will decrease

**22- The Earth's temperature if we use renewable resources of energy instead of fossil fuels.**

The Earth temperature will not increase.



**23- Wind does not blow in an area that contains many modern wind turbines.**

The blades of wind turbines will not move and will not generate electricity.

**24- Sunlight falls on solar panels.**

The solar energy is converted to electrical energy.

**25- The kinetic energy of a wind that is applied on the wind turbine increases.**

The blades rotate faster and generate more electricity.

**26- Water turbines are placed in a dam.**

Water turbines rotate and generate electricity.

**27- Potential energy of water increases behind a dam that has water turbines.**

It is converted into more kinetic energy that rotates the water turbines and generates electricity.

**28- Water of seas and rivers evaporates then condensates in the atmospheric air.**

Clouds are formed and rain falls.

**29- Sunlight falls on a green house**

The green house converts the radiant energy from the sun to thermal energy

**30- There is difference in temperature of air around Earth**

It causes the movement of air and wind blowing

**31- Lichens growing on rocks produce acids.**

Acid will dissolve minerals in rocks and break them down.



**32- A red colored rust is formed on some rocks.**  
The rocks become weak and easily break down.

**33- A river carries sediments meet a sea.**  
Delta is formed.

**34- A flat land, if a water stream flows over it**  
A small canyon may be formed

**35- A river erodes the sediments of a mountain over a long period of time**  
A canyon may be formed

**36- Wind that is carrying sand particles hits a big rock**  
Sand dunes may be formed

**37- A house that is built close to a river, if the path of the river is changes toward this house**

It causes weathering and erosion of the house

**38- A small canyon if it rained a lot and water ran through it for a longer time**

The small canyon could get deeper

**39- If the speed of the river water decreases**

River drops the sediments which it is carrying forming deltas

**40- The sand in a desert when wind blows by a great force**  
The sand travels for a long distance

